

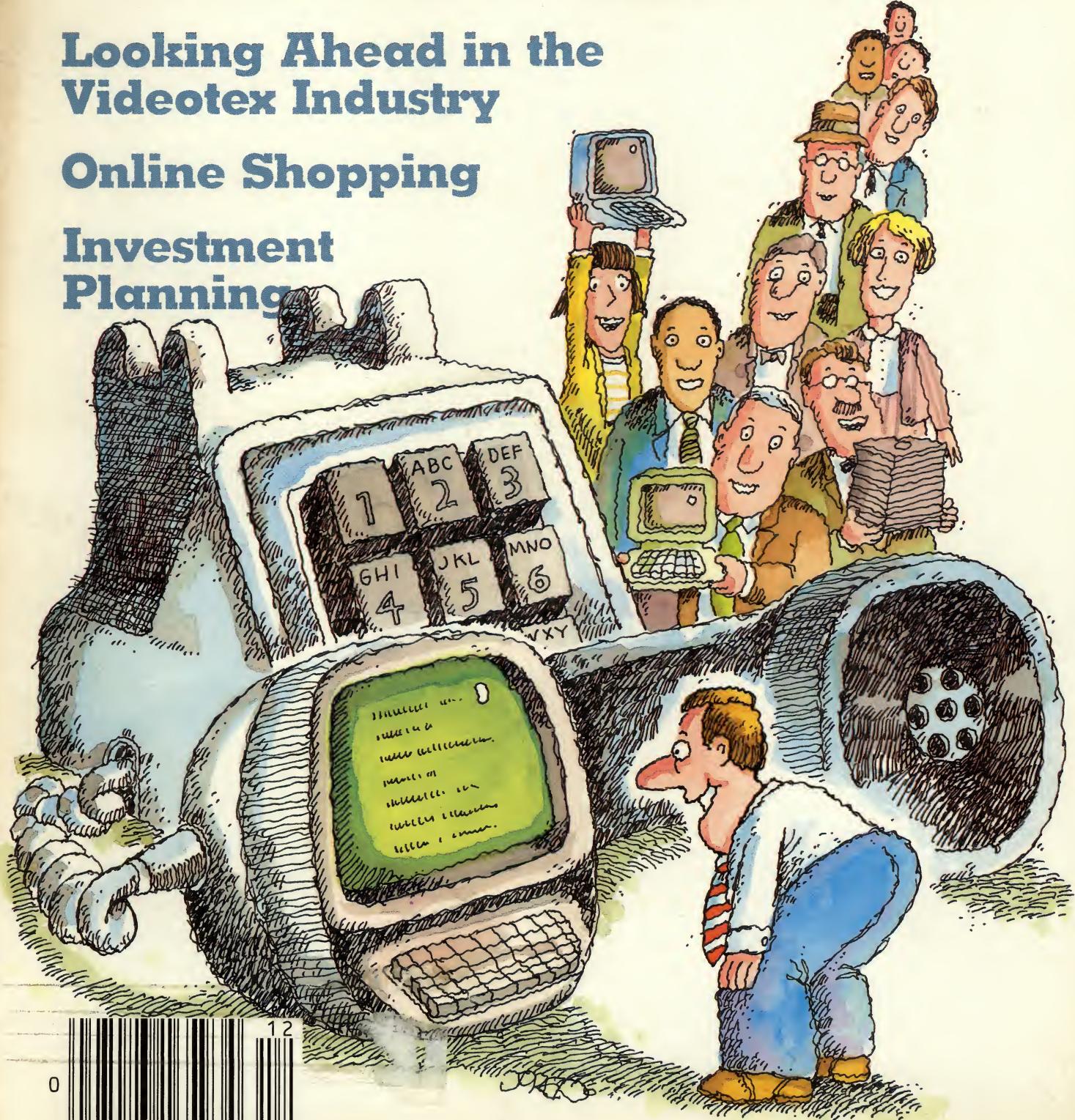
Online TODAY

THE COMPUTER COMMUNICATIONS MAGAZINE

**Looking Ahead in the
Videotex Industry**

Online Shopping

**Investment
Planning**



12

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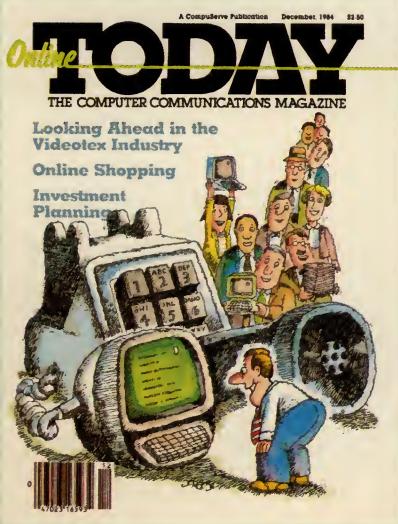
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Online TODAY

THE COMPUTER COMMUNICATIONS MAGAZINE

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By 1988 videotex will "crash into mass market status" just as home computers did in 1982, according to a prediction by Gary Arlen, a well-known communications industry analyst. By 1995, he says, one-fourth of all American homes and most businesses will use videotex.

For videotex to reach mass market acceptance, industry leaders will have to determine exactly what consumers want from videotex. Do they prefer news, reference information, forums, games, electronic shopping and banking, or some combination of these products? New videotex suppliers have already spent millions of dollars on market research to find out.

The formula for success in the videotex industry, according to Arlen, is "a magic blending of technology, programming, marketing, packaging, pricing and perceived value." Clearly, an eclectic mix of online products must be offered if videotex is to appeal to consumers at large. Determining the ideal mixture is another matter, because individual consumers have so many differing perceptions of what constitutes a good value.

In addition to expanding the types of services — especially transactional services such as electronic shopping and banking — the videotex industry will need to develop a way to make services affordable for the average consumer.

Meanwhile, CompuServe's Consumer and Executive Information Services are experiencing success in a market with high-quality demographics. "At this time, our subscribers are a very select part of the general population," says CompuServe President Charles McCall. "Our job is to find and package the kinds of information they want to pay for online." Despite the cautious acceptance of electronic banking, other CompuServe services are flourishing. CompuServe has been most successful with services that are not replacements for something else. InfoPlex® (electronic mail), CB Simulator and interactive games are three examples.

In the cover story, beginning on page 10, Contributing Editor Carole Houze Gerber explores what lies ahead for CompuServe and the videotex industry. She also includes Arlen's list of predictions for the future of videotex.

* * *

Online Today has added a new component to its *Electronic Edition*. For articles about CompuServe products, turn your videotex page to CompuServe Electronic Update. In this section, you'll find features on new CompuServe products and advice on how to get more out of existing products on the Consumer and Executive Information Services.

CompuServe Electronic Update is edited to complement the CompuServe Update section of *Online Today*. The electronic version includes timely information and follow-ups to stories appearing in the print version. You'll have access to CompuServe product and system news as soon as it becomes available. To read information in CompuServe Electronic Update, type GO OLT or GO UPD from any prompt in the Consumer Information Service.

Also in *Online Today Electronic Edition*, we've added two new features to help you find information quickly. When you type GO OLT, you'll notice an opening page with listings of the day's top stories and GO commands to reach those pages. In the Electronic Monitor section, we've added Monitor Week in Review, a summary of the week's top computer and videotex industry news items. To stay informed, GO OLT every day.

Douglas G. Branstetter
Editor

Legal Forum

I have a comment on the Legal Forum story in the October issue. What action was taken to discipline the police who violated the First Amendment? There is no such thing as an illegal message. If the police can get away with this, then it must really be "1984."

Edward R. Greisch
Maxwell, Iowa

Home Banking

Your September 1984 article on electronic home banking seemed to indicate that home banking is still regarded as experimental by the Banking Industry. It has actually become a reality on CompuServe with the participation of Huntington National Bank of Columbus, Ohio, Shawmut Bank of Boston, Mass., and United American Bank of Memphis, Tenn.

According to the article, all three banks offer their electronic customers the ability to review transactions,

transfer funds, pay their bills at the touch of a button and peruse current interest rates on home mortgages, certificates of deposit, Treasury bills and more.

Having participated in home banking with UAB for six months, I've found that the funds transfer and bill payment options (Express Tel-a-Pay) are non-existent. I see the format for these services on CompuServe, which leads me to believe this advanced approach to bill handling is almost ready for implementation.

The problem seems to be not enough statistical proof of a cost savings to the banking institution to justify electronic home banking and remote access, according to UAB's Terry Taylor. I appreciate Mr. Taylor's interest in home banking. At the same time, I wonder how UAB can mail prospective customers two pages of instructions on Express Tel-a-Pay if this service is not actually functional.

It's been almost five years since

home banking started on CompuServe. That seems time enough to get it off the drawing board and onto the keyboard. If home banking isn't going to do what it originally set out to do, then I would imagine you're going to hear from a lot of disappointed customers.

Keith Pierson
Hayward, Calif.

Librarian Stereotype

Although I usually enjoy your magazine, the article on page 8 of the October issue made me angry. I am the automation librarian in charge of the online catalog for the North Dakota State University.

Although the article was fine, the art by Illustration Alaskan Moose was totally inappropriate. In my years of association with librarians, I have never seen a librarian with her hair in a bun, lace at the cuff and collar and glasses with pop-bottle lenses. Such stereotyping is demeaning. It negates all the

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work done by librarians in such wide-ranging areas as defending of intellectual freedom and improving public access to information. The "Marian the Librarian" stereotype is doubly offensive.

On a less angry note, I would like to invite you to use North Dakota State University's online catalog. You can view the library's holdings by dialing 701/237-8661. When prompted for a class number, type 40ENTER. You will be given a sign-on message and a prompt(). Type HELP for a list of help screens, or HELP BE (meaning "begin") to find how to start searching by author, title, subject or key word. You can leave comments concerning the system at 72466,2006 or by writing to my attention at The Library, NDSU, Fargo, ND 58105.

By typing HELP SY you can find how to search eight Minnesota libraries on our system.

Jim Carroll
Fargo, N.D.



Online Today is usually a source of useful, well-written information. How disappointing to find the illustration of a "sshhh"-ing librarian on page 8 of the October issue. Surely, a sophisticated information-industry publication like yours can do better than this — especially to illustrate an item about new technologies in libraries.

John Kupersmith
Austin, Texas

Please address your Letters to the Editor through Online Today's Electronic Edition Feedback Area. Simply enter GO OLT-33 from any prompt in the CompuServe Consumer Information Service, or write to: Letters to the Editor, Online Today magazine, 5000 Arlington Centre Blvd., P.O. Box 20212, Columbus, OH 43220. Online Today reserves the right to edit letters for length, content and clarity.

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Each issue of *Online Today* is filled with information which CompuServe subscribers benefit from having close at hand for reference.

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Both styles of case are handcrafted in leather-like fabric, similar to the storage units used by libraries to shelve and preserve their periodicals. And the spines of all cases are embossed with the *Online Today* logo for easy identification on any bookshelf.

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JOB HUNTING?

Looking for a job? Unicomp Corp., a Seattle-based data processing company, has launched the Technical Personnel Directory — an online database for job hunters and employers in the computer industry. While employers

pay a \$35 per month fee to list employment opportunities on the service, job seekers pay nothing. TPD is updated daily and is available 24 hours per day, seven days per week. Additional details are available from Unicomp Corp., 555 Fourth and Battery, Seattle, WA 98121; 206/223-6453.

ONE MAN'S OPINION

Why is American business booming while industries in Europe and elsewhere are still faltering? According to Paul G. Zurkowski, president of the Information Industry Association, the answer lies in America's current information boom.

Speaking before an information industry conference in Denver last August, Zurkowski said, "The force of information is at work in America and is the causative factor in the economy's expansion and in the record growth in

the number of jobs being created."

According to Zurkowski, the information revolution has spawned a family of new businesses that are free from capital-intensive start-up costs. These industries are not only creating new jobs, said Zurkowski, but are also stimulating the creation of jobs in the industrial sectors they support and serve.

Zurkowski claims this phenomenon, as well as other factors, combine to make America the flagship of the information revolution. "The economy's growth rests on the 'Great American Information Machine,'" he says.

AUSTRALIAN VIDEOTEX

The Land Down Under is way on top when it comes to high-technology developments. This fall, COMSTRAD, which is headquartered in Queensland, Australia, installed an international, commercial videotex service based on French Teletel software.

The Australian videotex service will function through a database established with Honeywell mainframe computers. Prestel and NAPLPS ter-

iminal owners can access the Honeywell DPS-6 computers, which can have their own databases or act as a front-end communications link to established databases on any type of mainframe.

Aimed at a commercial audience, the COMSTRAD system is most beneficial for those companies requiring high security and transaction processing capabilities of a sophisticated nature. One use, for instance, is for Australian companies that want to set up an inexpensive network. Top management would establish its own database of sales and inventory information and then simply place terminals in the individual stores.

Says Michael Hennessy, managing director of COMSTRAD, "It means a company can increase its customer base, agents, branch offices and networks quickly and economically without having to upgrade or expand what is already in use. Customers can order from an electronic catalog, and the supplier can bill his client electronically. Payments can even be made by electronic funds transfer to take advantage of any timely discounts. Both the supplier and customer will gain by this approach."



COMPS AT THE BAR

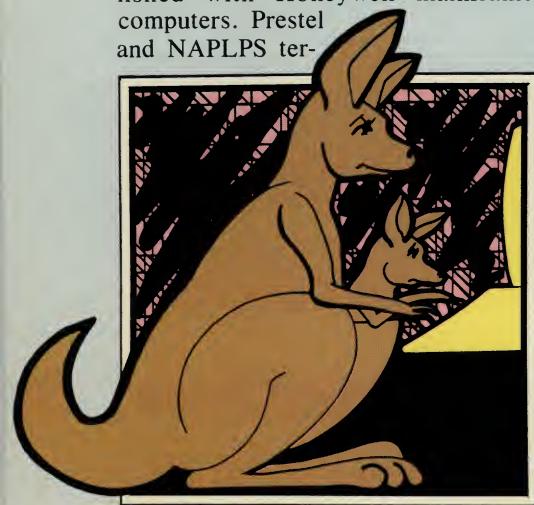
According to a survey conducted by the American Bar Association's *ABA Journal*, 70 percent of all U.S. law offices now have at least one computer or word processing terminal. The survey also found that 47 percent of ABA members were considering the purchase of a computer for business or home use. The survey noted that while most computerized law offices employ four or more attorneys, smaller offices will acquire computer systems as less expensive hardware and software products become available.

Hennessy says a market survey showed that potential clients of the system wanted portable terminals and electronic funds transfer capability. Minitel videotex terminals supplied to COMSTRAD customers will accommodate printers as well as integrate a diskette subsystem, popular business micros and personal computers.

The software package being used is called Videopac and is already in widespread use overseas. In France, more than 300,000 users access the public Teletel system, which also uses Videopac, making it the largest videotex system in the world. Videopac systems are also used commercially in the United States, South America, other parts of Europe and the Middle East.

The French Teletel system, upon which the Australian system is based, also has commercial users. These include Cycles Peugeot — whose 600 dealers can order parts directly and save time — and Citroen, which has 500 Videopac terminals in its dealership network.

— Cathryn Conroy



SOFTWARE ONLINE

If shopping for software in stores tries your patience more than your pocketbook, you'll probably be interested in Telephone Software Connection, a new software teledelivery service.

TSC offers a menu of more than 75 program titles, including games, business systems and educational software. Users pay for their purchases via a major credit card and download the software at 300 baud. TSC currently provides only Apple II-based programs, but may begin offering software for other machines in the future.

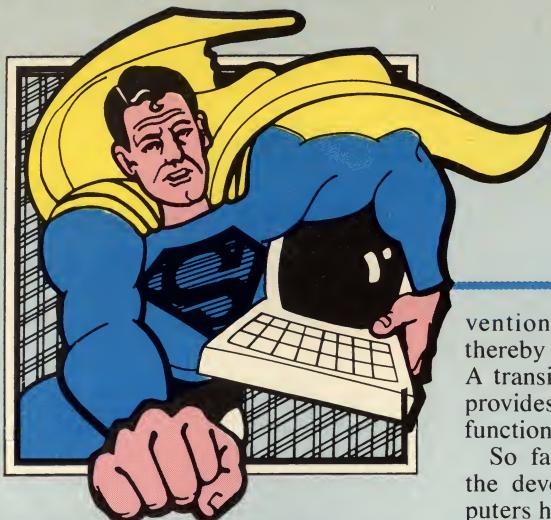
For additional information, contact Telephone Software Connection, P.O. Box 6548, Torrance, CA 90504; 213/516-9430 (voice), 213/516-9432 (data).

HELP FOR DISABLED COMPUTER USERS

While personal computers have been a boon to many people, perhaps no single group has benefited more from the micro's introduction than the disabled. Home computers have provided the handicapped with an easy, economical way to reach other people and to speed dozens of everyday chores. Now there's a users' group that aims to help the disabled learn more about personal computer operation and applications.

The Committee on Personal Computers and the Handicapped, a nationwide self-help group, provides its members with a variety of useful services. Based in Chicago, COPH distributes a quarterly newspaper, offers technical help on request and provides inexpensive computer gear for needy handicapped people. The organization, which currently has more than 500 members in some 45 states, also provides low-cost modifications that help members with special disabilities gain access to microcomputer systems.

COPH membership is available for \$8 per year. Complete information, including details on the organization's in-person meetings, is available by writing COPH, 2030 Irving Park Rd., Chicago, IL 60618.



FASTER THAN A SPEEDING ELECTRON

Scientists at AT&T Bell Laboratories have developed a new semiconductor device that may someday help supercomputers — those ultra-powerful number crunchers used by the Defense Department, NASA and many telecommunications companies — operate faster and more productively.

The device, called a selectively doped heterostructure transistor (SDHT), offers the ability to manipulate electrical signals faster than conventional semiconductor devices, thereby speeding computer operation.

A transistor is the switching unit that provides computers with their logic functions.

So far, the major barrier blocking the development of faster supercomputers has been an inability to produce faster-working switching devices. Impurities contained within the conductor material of current transistor circuits slow down and scatter electrical signals. The SDHT overcomes this problem by shifting impurities into a separate chemical layer, enabling signals to travel unimpeded.

"We think this device has quite a potential," says James V. DiLorenzo, chief of Bell Labs' integrated circuit and electronic circuits department. "This isn't a theoretical proposition but a practical development. It has the potential to be revolutionary," he says.

— John Edwards

ON REQUEST

Group W Cable has started testing Request, a high-speed, high-capacity teletext information service. The company began a trial run of the system last July in Buena Park, Calif., on a Group W cable TV system.

A one-way service, Request can deliver as many as 5,000 pages of news, sports, weather and other information over a single cable channel. Pages are transmitted at a rate of 500 pages per second. Request will utilize Zenith teletext decoders and a computer system designed by Jasmin Electronics, a United Kingdom-based manufacturer.

Information providers in the Request trial project include Comp-U-Card (a computerized shopping service), Electronic Media Services (a special features provider), TV Data (a TV listing service), Scholastic Publications and the *Los Angeles Times*. The system also provides a database containing community news and facts about cable services.

If the Buena Park tests prove successful, Group W Cable, which operates cable systems in more than 650 communities, hopes to offer Request as a pay channel to its system operators nationwide.

AAMI SURVEY

Looking to make a quick buck with your microcomputer? If your talents lean toward playing the stock market or investing in futures, you might want to use your micro as a tool for selecting those investments.

The American Association of Microcomputer Investors Inc. (AAMI), an independent, non-profit organization in Princeton, N.J., has surveyed the available software and reports the average price for investment packages to be \$283.

"The average price per investment software package for the IBM PC is significantly higher than for other systems at \$412 per package," reports Thomas A. Meyers of AAMI. He adds that Apple II Plus and IIe packages average \$351 each, while the TRS-80 Models I, II, III and 4 averages range from \$109 to \$134.

For more Monitor articles featuring daily updated computer and videotex industry news, access Online Today Electronic Edition Monitor in the CompuServe Consumer Information Service. Simply enter GO OLT from any prompt and choose Item 2 on the main menu.



REFLECTIONS

on the videotex industry

PROJECTIONS

of its products & markets

by Carole Houze Gerber

Some critics call it a technology in search of a market. Other experts say videotex technology has developed a niche in the consumer marketplace and its users are a growing population with high-quality demographics.

Despite its less than mainstream status — only about 6 percent of all homes are currently equipped with personal computers and only 15 percent of this select group have modems — home videotex is big business. And it is growing bigger faster than you can say "online communications."

In addition to established information utilities such as CompuServe, The Source and Dow Jones News/Retrieval, commercial giants such as Sears, Roebuck, CBS, IBM, J.C. Penney, Bank of America, Times Mirror, Knight-Ridder and many others are entering the home videotex market.

Already, \$26 million have been invested in a color graphics service called Viewtron, for which consumers must buy or rent a \$600 AT&T Sceptre terminal to get online. The reason for all this commercial investment in home videotex is as clear as capitalism — companies are convinced that there's a lot of money to be made, and market surveys back up these beliefs. Some experts estimate that by 1990 videotex will be a \$25 billion industry with market penetration in up to 15 percent of American homes.

Other studies have shown that, properly marketed, shopping and other home videotex services will gain widespread acceptance. Booz, Allen and Hamilton Inc., a New York consulting firm, found in a recent home information industry study that 60 percent of households surveyed would do half their shopping for "consumer durable goods" online if prices and quality were competitive with in-store items. A number of other market studies have also shown that those who can afford home computers are very interested in videotex services.

Who uses home videotex services?

Only a couple of years ago, home hobbyists — those intrepid souls with the know-how to put together their own equipment — were the major users of videotex services. As the technology became friendlier and more services became available, techies were joined online by yuppies — young urban professionals — with the equipment, money and time needed to cruise the elec-

tronic malls, banks and other home services. According to CompuServe President Charles McCall, the home videotex market is now composed of well-educated people who are "knowledge intensive."

"Our subscribers spend a lot of money on books, magazines and other knowledge-type products," McCall explains. "They're trend-setters — early adopters of new goods and services. They're the same people who were the first to buy video cassette recorders and other electronic devices. We've found that people with high incomes spend a reasonable portion of it on information."

A 1983 survey of the demographics of CompuServe subscribers shows that, like subscribers to other videotex services, they are an exceptionally well-educated and wealthy group. More than 50 percent are college graduates, compared to 21 percent of college graduates in the general population. Seventy-two percent of CompuServe subscribers have incomes over \$25,000 a year. Of these, 19 percent have annual incomes in excess of \$55,000, compared to a median U.S. household income of about \$20,000. "At this time, our subscribers are a very select part of the general population," McCall says. "Our job is to find and package the kinds of information they want to pay for online. We also feel we can expand our market by going after people who have slightly less income, by offering more services, and by making it faster and less expensive to get around the service."

Despite the enthusiasm of CompuServe's approximately 150,000 subscribers, the consumer base for videotex services will have to broaden considerably before its acceptance becomes widespread, according to Gary Arlen, president of Arlen Communications, a Washington, D.C.-based research and information firm specializing in interactive communications services. "Videotex has developed in about four or five different directions," Arlen says. "It's sort of an invention by committee, and things have to work a little more effectively than they do right now."

"As an example, there have to be efforts to develop different prices for different services if videotex is to be expanded beyond yuppies and the other special interest groups it presently serves. The range of services has to be

expanded — transactional services appealing to large groups of consumers have to be added," Arlen adds.

Figuring out what consumers want

You can use videotex to check into a computer dating service in search of the man or woman of your dreams. You can log on and play a game of chess with a partner thousands of miles away. Electronic databases enable you to conduct speedy online research and to get up-to-the-minute news, weather, transportation schedules and entertainment guides. You can stroll electronic shopping malls, check your bank balance and deposit or transfer funds. A virtual smorgasbord of activities is available on CompuServe and some other videotex services.

But although videotex suppliers are offering a full plate, it appears that, in many cases, consumers are picky eaters. Major marketing thrusts by a number of videotex suppliers to provide online banking and shopping services, for example, have shown mixed results. This tentativeness on the part of consumers has not, however, damped either the enthusiasm or the marketing plans of new videotex suppliers, who have spent hundreds of millions of dollars on market research to find out what videotex services consumers will buy.

Videotex expert Arlen readily admits that finding the key to effective marketing of online services is a difficult task. "Successful videotex operations require a magic blending of technology, programming, marketing, packaging, pricing and perceived value," he explains. "A mix of services has to be offered so that customers perceive they are getting their money's worth for every penny they spend. And that's very tricky because people have different perceptions of what constitutes a good value. That's why a lot more has to be done on the packaging of videotex services so they will appeal to a much wider market."

Arlen's contentions are supported by a number of consumer studies. For example, according to research findings reported by David Shnaider, a senior editor at CBS who reported at Videotex '83 about a Ridgewood, N.J., consumer study, successful videotex services must meet several needs. Shnaider said that successful videotex services must provide up-to-date information and be diverse

enough to serve a variety of needs. They should also be interesting to read, simple and enjoyable to operate, and have a strong local orientation in terms of sports coverage, news and the like.

"The local angle is very important in selling videotex services," Arlen agrees. "People are far more interested in local information — whether it's where they can buy things from local merchants or what the local weather is." The local orientation is something that established services like CompuServe do not specialize in, because their market is a national one. However, CompuServe President McCall says online forums provide opportunities for people in different parts of the country to form their own neighborhoods based on interests, not geography.

McCall adds, "The merchants who advertise on our shopping service are national chains like Sears and therefore transcend the need for a local orientation."

Providing at-home shopping and banking services has been a major thrust for new suppliers entering the home videotex market. Trintex, an information service subsidiary formed by Sears, IBM and CBS, is described as an information and transactional banking and shopping videotex service that also offers full news, financial, educational and message functions. A Trintex spokesman says the service is expected to be operational by 1987. Gateway videotex service, recently offered in southern California by Times Mirror Videotex Service, and Keyfax, offered since April in the Chicago area by KeyCom Electronic Publishing, are among many new heavily researched and marketed videotex services with information and transactional capabilities.

Online banking services

Videotex providers offering transactional-type services are in the process of building a subscriber base. While nearly 1,000 banks have home banking projects in the planning stages, less than 100 have gotten beyond the test market stage. Paul Ayres, assistant vice president of Huntington National Bank in Columbus, Ohio, whose bank has offered online services through CompuServe for two years, says, "The online banking portion of our services is negligible at this point."

"If you were to compare the present



CompuServe President Charles McCall: "Our job is to find and package the kinds of information our subscribers want to pay for online."

state of online banking to the acceptance of automatic teller machines, this is about 1969 as far as online banking is concerned. We're still at the first step in the evolution of a product. And certainly, any new product is going to take some time to develop."

One reason banks want to fan consumers' desire for online financial services is that the colossal amounts of paper passing through even the smallest banks would be drastically reduced — some experts estimate by as much as two-thirds. This reduction in paperwork would result in a corresponding reduction in clerical personnel. Anoth-

er reason, according to Huntington's Ayres is that online services give banks an entree into new markets. "It's extremely expensive to put in new branch banking facilities," he says, "and banks simply cannot afford to put up a new building in every location where we want to attract new customers. Through CompuServe, we now have customers online in 22 states and Canada. Most are customers we would not have had otherwise."

Going after the home banking market in a big way is an expensive proposition, and one that few banks are willing to risk at this point. In New York City,

for example, \$20 million was spent by Chemical Bank to set up its online service, which now has about 5,000 subscribers. In San Francisco, Bank of America also spent a great deal to establish a service to attract its 8,000 subscribers. So far, no online banking services are breaking even — partly because they have yet to attract enough subscribers to support the service.

Also, to attract these initial subscribers, online services must be offered at rates well below the banks' costs — especially since users must, in some cases, buy special terminals to use the service. Huntington National Bank, for example, charges only \$4 a month for its service, in addition to normal CompuServe connect charges. To cover their costs and continue to offer attractive rates, banks will have to convince a large number of customers that online banking meets their needs. And getting customers to give up paper services for videotex services is clearly not an overnight occurrence.

However, Dave Bezaire, manager of large accounts marketing at CompuServe, is not discouraged by the present lukewarm response to online banking services. "I see a massive snowball effect coming for these services," he maintains. "Right now there's a severe limiting factor because banks are geographic entities, and by and large, people do their banking with an organization close to home. Since the three banks on our system (Shawmut Bank in Boston, United American Bank in Memphis and Huntington National Bank in Columbus) represent fairly small geographic areas relative to our total subscriber base, it's natural that only a small group of our subscribers are using the banking services."

"But what's going to happen," he contends, "is that many more banks will offer home banking services and the number of modem-equipped home computers will proliferate quickly. These two factors will greatly increase access to online banking services."

But effecting the behavioral changes necessary to pique people's interest in online banking is a difficult proposition — regardless of how much sense the changes may make, says CompuServe President McCall. "Most people don't embrace change. They still want to thumb through their paper checks at the end of each month," he says, "even if, in most cases, they then throw them in a drawer and forget

about them. It's an ingrained, traditional method of handling their finances, and it will take a while to convince people that online banking is more efficient. We have to find ways to make online banking more attractive — like packaging it with other financial services — so that more people want to use it. It will take time, but I'm convinced it will happen."

Many bankers are convinced, too. For example, a computing services company called ADP presently has about 20 banks online in several states offering an at-home banking service that also includes stock market information, news and weather. Huntington National Bank's Ayres reflects the optimism of many bankers regarding the eventual widespread acceptance of videotex banking services. "With all the changes in technology in recent years, it's really crazy to try to predict anything beyond the next couple of years," he says. "Still, we can easily see the number of online customers doubling or even tripling within that time frame."

Shopping at home

Market tests involving Sears, Saks Fifth Avenue, J.C. Penney, I. Magnin and other major retailers show that online shoppers are willing to buy items they don't need to see, touch or try on before ordering. Consequently, high-fashion clothing is out. Small appliances, books and computer merchandise are in. "Products with wide market appeal that are not particularly fun to shop for in person draw the biggest electronic shopping crowds," according to one electronic retailer.

One problem with selling visual-type products online is the lack of sophisticated color graphics on most systems. An exception is Times Mirror's Viewtron system, which has the capability of showing full-color pages similar to those in a traditional paper catalog. However, the cost of the special \$600 Sceptre terminal needed to use Viewtron's electronic shopping and other services is prohibitive to many consumers. One test in an affluent New Jersey suburb showed that even wealthy subscribers were not willing to pay more than \$30 a month for the service — not nearly enough to cover the cost of operating the system.

Because online advertising by merchants is such a new phenomenon, many retailers are still trying to second-

guess how to package their products to attract consumers. Martin Nisenholtz, manager of videotex development for Ogilvy & Mather, an international advertising firm, offered several guidelines for online advertising at Videotex '84. Drawn from Ogilvy & Mather's research in the United States and abroad, the guidelines include making the videotex/consumer interaction personal and letting consumers know how often and when the advertised products will be changed.

Among other things, Nisenholtz suggests placing "teasers" in other areas of the videotex system to draw consumers to the ad, and grouping various kinds of products together — such as those specifically for children. Offering unique advantages to the videotex shopper, such as using "viewpons" (online coupons) and other discounts, is another way to stimulate customer interest, according to retail experts at Touche Ross. Another Touche Ross finding is that well-known stores that have already captured customers' loyalty through in-store and catalog sales are the best bets for online selling. Offering a variety of merchants online is also important.

At CompuServe, about 75 advertisers currently line its Electronic Mall™, jointly operated with L.M. Berry, a Dayton, Ohio, based Yellow Pages, advertising/publication company. The Mall offers goods in different categories including books, magazines, newspapers, financial information, hardware and software, gardening, travel, records, and discounted photography equipment and supplies. Mall merchants are responsible for merchandising and order fulfillment. According to Mary Finley Zacks, an associate product marketing specialist at CompuServe, many advertisers in the Mall, such as Sears, already have established reputations in catalog sales. "Customers know exactly who they are dealing with and have confidence in the merchants," she says.

James H. Arnold, director of operations for L.M. Berry, says a recent Nielsen survey of Electronic Mall shoppers showed very positive results. "The problem now is that to compete with other mass media, such as cable and magazines, the penetration of communicating terminals will need to increase," Arnold says. "We think that will happen and that today's 1 million households with modems will

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Director of Operations James Arnold and Database Administrator Eric Burkhart, both of L.M. Berry's Advanced Media Group, and Mary F. Zacks, CompuServe's associate product marketing specialist, work on the database for the Electronic Mall.

grow to 7 million by 1990.

"We've also found that promotion of the Electronic Mall greatly affects usage," explains Arnold. "Continuous advertising and marketing is necessary to let consumers know what is going on in the Mall."

Arnold says an advantage of videotex is its selectivity in targeting particular groups. "It provides usage data so that advertisers can understand the who, when and what of product merchandising. It also supports transactions, which support the non-store retailing trend that's apparent with the boom in catalog sales."

"We definitely view the Electronic Mall as a short-term opportunity that involves many long-range objectives," Arnold concludes. "L.M. Berry is a conservative company. We wouldn't be in this business if it wasn't a good investment now."

Future plans at CompuServe

CompuServe's faith in a bright future for home videotex is reflected in its aggressive expansion plans. "Just this current year, we're investing over \$15 million in capital expansion," says McCall. "We're adding \$5 million worth of central computer power, and we're investing another \$5 million in expanding our network so we can go into

more cities with local dial-up calls — we're putting in satellite earth stations around the country to help with our communications network. Finally, we're adding over \$5 million worth of real estate here to our Columbus complex so that we can provide more customer service and product development employees."

McCall says that despite the cautious acceptance of online banking and shopping — which he feels will eventually catch on — other CompuServe services are flourishing. "We've been most successful at offering services that are not replacements for something else," he says. "InfoPlex, CB Simulator and interactive games have so far been the areas in which we've been most successful."

"I'm no psychologist, but from the popularity of these types of services, it's apparent that videotex meets a social need for many users. Of course, there are hard-core cost-savings involved with electronic messaging, accessing databases and other business services," McCall concludes. "But we can't forget the human element behind all this high technology. And we don't ever intend to."

Carole Houze Gerber is a contributing editor of Online Today. Her CompuServe User ID number is 70007,1215.



Analyst Gary Arlen: "By 1988 videotex will crash into mass market status."

VIDEOTEX EXPERT HAZARDS SOME PREDICTIONS

By 1985, according to Gary Arlen, publisher of *Videotex/Teletext News*, breakthroughs in computer graphics will cut frame-creation time from two hours to less than 10 minutes. This increased speed will permit system operators to offer many more services at a lower cost. Other Arlen predictions include:

- Demand in 1985 and 1986 by special user groups such as doctors and investors will stimulate the rapid growth of private videotex systems.
- Public access videotex will increase more than six-fold, and each of the 50 largest urban areas will have at least one public access system by 1984 or 1985.
- By mid-1987, those living in the nation's 25 largest cities will have access to local, broad-based home videotex systems — most of which will be operated by banks or newspapers.
- By 1988 Arlen predicts that videotex will "crash into mass market status" just as home computers did in 1982.
- As a result of the spread of fiber-optic telephone cables, video retrieval — the marriage of video disc technology and videotex — will come into its own.
- By 1995 one-fourth of all American homes and most businesses will use videotex.
- By 2010 videotex will be as much a part of most Americans' lives as cars and telephones. More than 60 percent of homes will be videotex-equipped.

THE ELECTRONIC SHOPPING BAG

Dear Welcome Wagon™:

I'm new in town, and I was wondering where I could purchase Michael Jackson's Thriller album, a manual for repairing a '59 Chevy, a new video cassette recorder, an ergonomic desk for my micro, software packages for accounting, an IRA plan, two wine glasses to match the ones I bought from American Express last summer and some good books. The problem is that I can only shop on Saturday and I don't have a car. Is there somewhere I can go and get everything in a few hours?

Sincerely,

J.B.
Bloomington, Ind.

Sound like an impossible demand? Not at the Electronic Mall™. Available exclusively to CompuServe subscribers, the Electronic Mall is the result of extensive research and development by CompuServe Incorporated and L.M. Berry and Co., one of the nation's largest Yellow Pages directory publishing companies.

Not only does the Mall provide shop-at-home convenience, it also affords easy ordering of a multitude of brand-name products and services as well as helpful information on everything from life insurance to travel. Many of the products and services are offered at considerable discounts. And spot advertising and a New and Noteworthy board keep shoppers informed.

In some respects, the Electronic Mall is similar to a conventional shopping mall. The consumer can go directly to the shop of choice or spend a leisurely afternoon "window-shopping" via videotex. A Mall manager is on duty to field inquiries. Email feedback and phone numbers make it possible for customers to communicate directly with merchants.

There are several product categories representing over 60 merchants, including specialty stores like New York's 47th St. Photo. Recognizable names include Waldenbooks, Metropolitan Life Insurance Co., E.F.

Hutton, Bank of America, Commodore Business Machines, Heath, Microsoft, Kodak, American Airlines, Bloomingdale's, Sears, Roebuck and American Express.

"Product categories were chosen by three criteria," according to Stephen A. Swanson, L.M. Berry's vice president of strategic planning. "They're already marketed through direct-response techniques. They don't require color graphic descriptions, and they match the interests of CompuServe subscribers as determined by market research."

The concept of the Mall originated nearly two years ago when CompuServe and L.M. Berry began working together to determine how to place advertising on the Consumer Information Service. "The overall objective of the Mall is to test the effectiveness of the electronic media as it pertains to direct marketing and advertising," says James H. Arnold, director of operations at L.M. Berry. The success of the Mall in achieving that objective will be determined by research conducted by A.C. Nielsen during a four-month period.

Objectives of the Nielsen test include not only the tabulation of sales' receipts, but also an evaluation of how valuable information may be to the consumer. "We're also testing the technical aspects and support structures of the Mall," says Mary Vaughn, CompuServe's product marketing manager.

Initial response to the Mall has been favorable. Swanson notes that CompuServe subscribers have sent many positive comments to the Mall Manager.

Electronic consumers

Who is the typical customer, and what factors lead him to shop electronically? "The demographics of CompuServe subscribers are that they are professional males in their 30s, are married and earn high incomes," says CompuServe product marketing specialist, Mary F. Zacks, who adds that the wide array of products in the Mall may motivate the entire family to shop electronically.

According to Dr. Wayne Talarzyk, chairman of the marketing department at Ohio State University, the online shopper and the mail-order customer have similar demographics and con-

sumer needs. "The common denominator is time constraints," he says. "If the consumer is faced with demands on his time, it makes life easier to be able to do the shopping and gather information at home." These consumers like the potential for shopping 24 hours a day, 365 days a year. Ronald Ramseyer, Sears' national catalog advertising manager, sees this as a clear alternative, "It is possible for the customer to shop at home when our telephone operators aren't working or the stores aren't open."

Access to a wide range of products, often at considerable savings, is another distinct advantage for the consumer. Special book collections and 1930s radio programs are among the rare items that a typical shopper might have difficulty locating. "Because the electronic merchants do not have to maintain a physical inventory, they are able to offer a wider variety of merchandise," says Swanson.

Why isn't everyone shopping online?

Time and money, the same factors motivating some customers to park the car in the garage and shop from the den, motivate others to hire a babysitter, fight Saturday afternoon traffic and spend three hours searching for the perfect gift. Some people argue that electronic shopping is a rich man's sport. But, if you consider the costs of gasoline, parking, wear and tear on the car, babysitting and the value of your time, traditional shopping can be an expensive hobby.

"It's like anything else," says Thomas Rauh, national services director for retail consulting at Touche Ross. "Some people like to shop using a catalog and some people don't. I don't think anyone fully understands why it appeals to some people and not to others."

"You can't browse very well on online systems," says Martin Lane, director of videotex planning at LINK Resources, a New York research and consulting firm. "Online systems are really geared to people who know more or less what they want ahead of time."

What will people buy online?

One problem with electronic shopping is that you can't squeeze the Charmin. "Two of the biggest consumer needs are the ability to talk to someone and to touch the merchandise,"

says Robert Barlett, director for retail consulting for Touche Ross and Co., a management consulting firm specializing in retail, banking and high-technology industries. "You need to be able to pick up the packets of meat in the supermarket. And you need to feel the cloth of a dress and look at it under the light." "It's very logical," says Lane. "The things people will buy online are the kinds of goods you don't need to see and touch, such as books, records and tickets for airlines."

But with certain types of products there's an advantage to seeing them. Kirk Shelton, senior vice president of Comp-U-Card, a shop-at-home service offering more than 60,000 products, says, "I don't think anyone cares that much about a 13-inch television set. But when you start talking about a 25-inch TV that you put in your living room, people care whether it's contemporary or traditional." Similarly, a shopper might be more apt to order a blue oxford shirt via the micro than a daughter's prom dress. "Anything with a brand name or identifiable model number or features works well," Shelton says.

"One drawback with videotex is that we won't have graphics," says Herb Price, president of Fifth Avenue Shopper, a CompuServe specialty store since 1982. "Brand names give people a graphic image in their heads. In a sense, it prepromotes the product and gives immediate identification."

Research by OSU's Talarzyk indicates specialty items, like Godiva chocolates, that the consumer can't purchase at the corner drugstore will do well, as will items about which the consumer doesn't require much information. Talarzyk predicts groceries and health aids will sell better than many other items.

Rauh foresees financial services evolving more rapidly than most product categories. "The information content you want to convey when you're selling life insurance is best presented as text and graphics," he explains. "You don't need a photograph of a nice-looking young family to sell life insurance, mutual funds or any financial product." Mark Hirmes, director of media technology at Metropolitan Life Insurance Co., which offers Mall customers life insurance, individual retirement accounts and, in some states, au-



tomobile and homeowners' insurance, agrees. "We think videotex has an excellent potential for marketing to individuals."

If brand-name products promise to be a shopper's first choice, does it follow that homemakers will order Campbell's soup, but not a head of lettuce or a steak from the electronic supermarket? Not necessarily. "We sell perishables within specialty areas," says Shelton. "Lettuce may do well if the retailer is able to demonstrate that he can provide personal service and quality," Barlett notes. "But initially people will not go into a service to buy lettuce. They'll buy cases of Michelob™ and, we hope, the lettuce will be a pleasant surprise."

Will a consumer be more apt to order custom-made roller skates from a merchant he's familiar with than one in a town he's never heard of? "It depends on the price," says Rauh. "If it's a brand item and there are no qualitative factors like service and follow-up, I think the consumer would make his decision based on price."

CompuServe's Mary Vaughn thinks Mall customers will shop at entrepreneur-owned stores because of their trust in CompuServe, but "if you have national merchants such as American Express, the consumer might initially shop there because he knows there's a real, physical store called The American Express Store."

"The retailers' policies are also important," says Rauh. "Most of the retailers in both the mail-order business and electronic commerce have a strong guarantee policy." According to Vaughn, all CompuServe merchants have return policies.

Online merchants

Many of those peddling their wares electronically do so because they think videotex will be an important part of the marketing mix of tomorrow.

They want to get in on the ground floor. Most of these merchants did not view online services as a way to make quick, easy money. "I think most of the companies in the Mall are taking a long-term view," says Arnold.

"Sears is interested because we're looking at alternative ways of communicating with potential Sears customers," says Ramseyer. "We strongly believe that videotex services are going to be a major way of marketing," says Mary Beams, director of videotex at McCann Erickson, New York, a worldwide advertising agency representing a variety of CompuServe merchants. "We want to know as much about it as possible and want to be one of the leaders in making it happen. We think it's going to be a medium that will have a significant impact on the American public."

Wyn Walshe, director of creative services/electronic media at J. Walter Thompson advertising agency, says his clients, which include Kodak, Kraft and Timex, are going online because they know that at some point videotex will be an influence in advertising. "They are learning what's best, how to create advertising, what to say in it, whom to address and how interactive it should be."

For the entrepreneur, videotex can be a good place to hang out a shingle without having to mortgage the house. "From the retailers' point of view, the technology can be used to reduce operating expenses, reduce the number of salespeople required on the selling floor and reduce the amount of inventory held at each store location," says Rauh. "This medium makes it easier for a merchant who doesn't have much market position or much of an infrastructure to compete directly with companies that have stores on every main street in America," agrees Martin Lane.

Since almost all merchants are now

ices at videotex marketing, the entrepreneur stands a chance against the company with an in-house marketing staff of 20. "When you move into a new market, everybody is a beginner," says Mall merchant Frank Fiore, general manager of Software Advisor, a store offering popular software for popular computers at discount prices. "No matter who you are, you have to figure out how to deal with that market."

Fiore is a classic example of an online entrepreneur: He previously operated Lobby Letters of America, a service providing its clients with letters to their congressmen or local newspapers, which was also available on CompuServe. Fiore feels strongly that videotex is a good market for entrepreneurs.

Don Ochs, owner of Primetime Radio Classics, is another online entrepreneur. "I've been online for three years," says Ochs, a former real-estate agent whose current sales line features a collection of 25,000 vintage radio programs from the 1930s, '40s and '50s.

Although the focused audience of computer buffs makes videotex a great

marketplace for peddlers of computers and peripherals, many merchants — even entrepreneurs — feel that the medium offers a relatively small audience compared to advertising in a national magazine or generating a mail-order catalog. "Relatively speaking, videotex has a small consumer base," says Price, whose Fifth Avenue Shopper offers hard to find gifts, including the finest perfumes and out-of-print books. "Your sales base can be significantly smaller and much more divided than a mail-order operation, which can have 2-, 3- or 5-million mailings." Although Fiore is satisfied with the sales receipts from Mall purchases, he says his advertisements in national magazines get more response.

Future trends

Will the bride of 1990 register her china pattern at the online department store? Although many merchants have high hopes for videotex shopping, they don't expect to change people's shopping habits overnight. "In psychological terms, it takes about 15 years to change any population's hab-

its," says Lane. "One of the mistakes made in the videotex/online business is to think that things will change quickly. I think it will be more than 10 years before we see a really distinct pattern, such as people doing a majority of their routine shopping this way."

Rauh says, "It's our feeling that electronic shopping will not be a significant factor in the mass marketplace until the mid-1990s." Rouh defines a significant factor as 10 percent or more. This figure encompasses both at-home shopping and use of public-access videotex terminals in shopping malls. Other industry experts don't feel that electronic commerce will ever account for more than 10 percent of retail sales. Of course, growth of the home computer market will be a major determining factor.

"Up to this point, there has been a lot of technology chasing after consumers," says Barlett. "Ultimately, the deciding factor will be consumers' needs."

— Francine Sevel

SHOP ONLINE FOR CHRISTMAS

This year shopping for Christmas will be a pleasure! CompuServe's Information Services have a large selection of vendors for your holiday shopping. CompuServe is open 24 hours a day, seven days a week to provide you with the ideal shopping environment — your home or office.

The vendors offer variety and savings. You may browse through The Athlete's Outfitter, Music Information Service, Fifth Avenue Shopper, Primetime Radio Classics, AutoNet, SAVINGS-SCAN, Comp-U-Store and The Electronic Mall™ to find unique gifts for your family and friends.

Looking for a particular football jersey for the athlete in the family? Type GO HAN at any prompt in the Consumer or Executive Information Service to view The Athlete's Outfitter. Everything from gym shorts, golf shirts and baseball caps to all the equipment you need to be the best outfitted athlete in town is now available.

The Music Information Service (GO MUS) has products to make your musician happy. Shoemaker's Music Inc.



specializes in printed music, instrument sales, musical accessories and the import/export of music items.

Fifth Avenue Shopper (GO FTH) will send flowers, perfume and Godiva® chocolates worldwide. The personal touch will make your gift that much more special. You can also check out the large selection of books and art.

Primetime Radio Classics (GO PRC) can provide you with a sensational gift for that relative who has everything. Original broadcasts of radio programs of the 1930s, '40s and '50s will enhance anyone's collection. Amos and Andy will bring back fond memories along

with Baby Snooks, Fibber McGee and The Jack Benny Program. The cassettes are one hour long.

Wouldn't it be great to treat yourself to that sporty new car you have always wanted? Type GO ATO to compare and price any type of passenger car. AutoNet will provide all the necessary information you need to buy that long awaited Christmas present!

For an overall array of products, check SAVINGS-SCAN by typing GO SAV. Everything from office supplies, sporting equipment, telephone equipment, clothing and accessories to gourmet foods, video tapes and auto parts will be at your fingertips.

The Electronic Mall is a dynamic shopping Mall with stores such as Sears, American Express, Waldenbooks, Stark Brothers Nurseries and a variety of other merchants in several categories. Check the New and Noteworthy section for updates on new services and products.

All vendors on the service take MasterCard and VISA. Check each database for specific ordering and shipping methods.

— Mary F. Zacks



On the first day of Christmas,
My true love gave to me,
A vacation from the Travel Agency.
On the second day of Shopping,
My true love sent me to
The Bazaar for books old and new.
On the third day of Christmas,
My true love asked if I'd seen
The Kiosk, with many a Magazine.
On the fourth day of Shopping,
My true love gave me her heart
For PC hardware from the Micro Mart.
On the fifth day of Christmas,
My true love asked me for
Fine gifts from the General Store.
On the sixth day of Shopping,
My true love asked that I stop —
For programs at the Software Shop.
On the seventh day of Christmas,
My true love implored:

How's that for an attention-getter? I'll bet many of you are going to wait until the holidays to begin shopping for special gifts for your loved ones. Why should you wait? Why worry about limited store hours in your local mall? You can shop in the Electronic Mall™ whenever you want!

“To the Emporium for a Record!”
On the eighth day of Shopping,
My true love desired a rose, red —
From where else but the Gardening
Shed?
On the ninth day of Christmas,
My true love told me where to go:
“To the Booth, for the perfect photo.”
On the tenth day of Shopping,
My true love gave me her hand,
And went with me to the Newsstand.
On the eleventh day of Christmas,
My true love and I were in debt;
We stayed to browse the Financial
Market.
On the twelfth day of Shopping,
My true love gave me a call,
To thank me for visiting
The Electronic Mall.

The Mall is open 24 hours a day, seven days a week — and there is no Mall membership fee or surcharge. Here you'll discover 65 merchants in 11 varied departments: Book Bazaar, Financial Market, Gardening Shed, General Store, Magazine Kiosk, Micro Mart, Newsstand, Photo Booth, Record

Emporium, Software Shop and Travel Agency.

Once more, for your shopping convenience, I have enclosed the Mall Holiday Index to give you a better idea of the variety of products and services our merchants provide. Don't forget to stay tuned to New and Noteworthy for updates about the Mall. Type GO NNW at any prompt in the Consumer Information Service.

Best wishes for the New Year,

— The Mall Manager

Electronic Mall Holiday Index



AUTOMOBILES

AR Auto Repair
Manuals Co.
BU Buick

CP Colonial Penn
ME Magazine Entree Corp.
MET Metropolitan Insurance
Companies
WL WorldWide Exchange
ZD Ziff-Davis Special Interest
Magazines



BUSINESS/NEWS

AXC AMEX Charge
Card

BA Bank of America

BC Business Computing
CP Colonial Penn
DJ Dow Jones & Co.
EF E.F. Hutton
HB Harvard Business Review
HD Heinold Commodities
ME Magazine Entree Corp.
MT Manufacturer's Hanover Trust Co.
MU Max Ule and Co.
MET Metropolitan Insurance
Companies

MA Midwest Associates

MI Miracle Computing

NN NewsNet

OA Official Airline Guides

PT Program Store

RP Rodale Press

SI Select Information Exchange

US USA Today

VG Vanguard Group

WB Waldenbooks

**CHILDREN**

AA American Airlines
DP dilithium Press
GE Grolier Books

HTH Heath Corp.
ME Magazine Entree Corp.
RW Record World
SR Sears, Roebuck and Co.
SD Software Discounters of America
WB Waldenbooks

**CLUBS**

AA American Airlines
BB Bantam Books
CS Commodore

Business Machines
HTH Heath Corp.
MS Microsoft Corp.
RC RCA Record Clubs
SM Small Computer Book Club

**COLLECTIBLES**

AXM AMEX
 Merchandise
BB Bantam Books

BL Bloomingdale's
GE Grolier Books
ME Magazine Entree Corp.
RC RCA Record Clubs
RW Record World
SR Sears, Roebuck and Co.

**COMPUTERS**

AS A.S.T. Research Inc.
BC Business Computing
CC CDEX Corp.

CS Commodore Business Machines
CW CW Communications
DE Digital Equipment Corp.
DP dilithium Press
EH 800-Software Inc.
GE Grolier Books
HTH Heath Corp.
IN Inmac Micro Supplies
IS Innovative Software Inc.
ME Magazine Entree Corp.
MM Marymac Industries
MH McGraw-Hill Corp.
MS Microsoft Corp.
MI Miracle Computing
MO Misco Computer Supplies
PP Practical Peripherals
SR Sears, Roebuck and Co.
SI Select Information Exchange
SS Simon & Schuster
SM Small Computer Book Club
SD Software Discounters of America
SU SuperSoft
VC VisiCorp
WB Waldenbooks

**ELECTRONICS**

AXM AMEX
 Merchandise
FS 47th Street Photo

HTH Heath Corp.
ME Magazine Entree Corp.
SR Sears, Roebuck and Co.
WB Waldenbooks
ZD Ziff-Davis Special Interest Magazines

**FITNESS/HEALTH**

ME Magazine Entree Corp.
RP Rodale Press

WB Waldenbooks
ZD Ziff-Davis Special Interest Magazines

**GENERAL**

DJ Dow Jones & Co.
GE Grolier Books
ME Magazine Entree Corp.

RW Record World
SR Sears, Roebuck and Co.
US USA Today
WB Waldenbooks

**HOBBY/HOME**

AXM AMEX
 Merchandise
FS 47th Street Photo

HB Harvard Business Review
HTH Heath Corp.
KP Knapp Press
KO Kodak
ME Magazine Entree Corp.
MET Metropolitan Insurance Companies
CL Professional Color Labs
RP Rodale Press
SR Sears, Roebuck and Co.
SB Stark Bros.' Nurseries & Orchards Co.
WA W.A. Taylor
WB Waldenbooks
WL WorldWide Exchange
ZD Ziff-Davis Special Interest Magazines

**LITERATURE/REFERENCE**

AXM AMEX
 Merchandise

BB Bantam Books
BC Business Computing
CS Commodore Business Machines

CW CW Communications

DP dilithium Press
DJ Dow Jones & Co.
GE Grolier Books

KP Knapp Press
ME Magazine Entree Corp.
MH McGraw-Hill Corp.
NN NewsNet
OA Official Airline Guides
OM Omni Magazines
CL Professional Color Labs
RP Rodale Press
SI Select Information Exchange
SM Small Computer Book Club
US USA Today
WB Waldenbooks
WL WorldWide Exchange

**PERFORMING ARTS**

ME Magazine Entree Corp.
RC RCA Record Clubs
RW Record World

**SCIENCE**

GE Grolier Books
HTH Heath Corp.
ME Magazine Entree Corp.
OM Omni Magazine

**SPORTS**

AXM AMEX
 Merchandise
ME Magazine Entree Corp.
SR Sears, Roebuck and Co.
US USA Today
WB Waldenbooks
ZD Ziff-Davis Special Interest Magazines

**TRAVEL/VACATION**

AA American Airlines
AXT AMEX Travel
AR Auto Repair Manuals Co.
BU Buick
CP Colonial Penn
ME Magazine Entree
MET Metropolitan Insurance Companies
RP Rodale Press
WB Waldenbooks
WL WorldWide Exchange

PRODUCTS

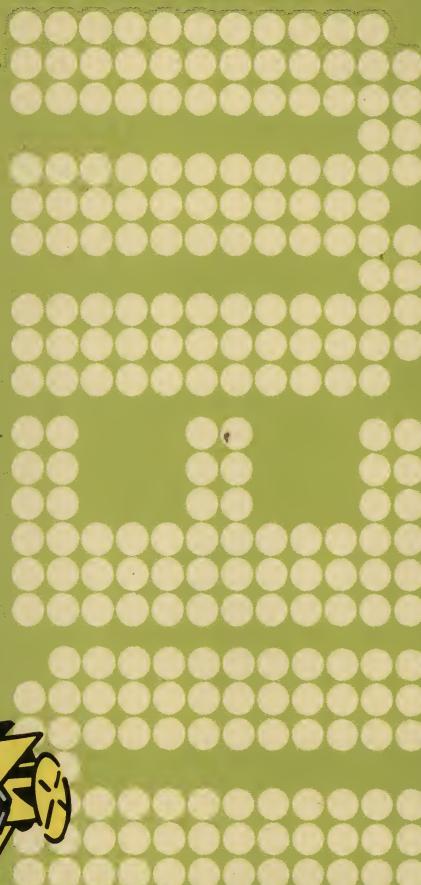
Comp-U-Store offers travel discounts

A new service from Comp-U-Store, Discounted Short-Notice Travel, offers unsold tickets on airfare and travel packages leaving from the United States and foreign cities in the near future. These tickets are for guaranteed travel packages and regularly scheduled airline flights — no standbys.

If you've been too busy to plan a vacation or if you need help thinking of a new and interesting place to visit, let Comp-U-Store's Discounted Short-Notice Travel help with your plans.

CompuServe subscribers may browse the travel possibilities free of charge online on Comp-U-Store. If you're also a member of Comp-U-Store, you may make full use of the travel discounts. The \$25 annual membership could allow you to save up to 50 percent on the price of your next vacation.

To view Comp-U-Store's travel discount feature, access the Home Services section, "Shop-at-home," or type GO CUS from any prompt in the Consumer Information Service.



Help function assists OAG users

The Official Airline Guides (OAG) Electronic Edition now has a help function to assist you in obtaining three-letter codes for cities. To use the help function, enter a "?" followed by the city name. For example, to determine the code for Nashville, you would enter: ?Nashville. The response would be Nashville = BN.

The help function can also be used when you see an unfamiliar city code. For example, if you wanted to know which city had city code MSY, you would enter: ?MSY. The response would be: MSY = New Orleans, LA.

In addition, the help function can be used to decode airline codes, aircraft types, meal information and fare classes.

To obtain more information about the help function, access the Home Services section, "Travel," or type GO OAG from any prompt in the Consumer Information Service.

Military Veterans Forum adds section for non-veterans

Until recently, only military veterans had access to information in the Military Veterans Forum. Now, with the addition of a new display section, non-veterans can access up-to-date news and information about veterans.

The new section has information from Bataan through Vietnam and today, as well as a Feedback section called "Ask A Vet" for those who have questions about military careers, veterans' benefits or other topics.

Also included in the forum are news highlights with information about current military events and features about Agent Orange findings, facts about Vietnam Veterans, the POW/MIA and more.

To find the Military Veterans Forum, access the Services for Professionals section, "Military Veterans Services," or type GO VET from any prompt in the Consumer Information Service.

Tour packages on DISCOVER ORLANDO

DISCOVER ORLANDO™ on CompuServe's Consumer Information Service has added Medallion Tours Inc. to its online product. Medallion Tours is an established wholesale tour company providing customized individual and group vacation fly-and-drive packages for visitors to Florida, the Bahamas and the Caribbean.

To become familiar with this addition to the DISCOVER ORLANDO service, access the Home Services section, "Travel," or type GO ORL from any prompt in the Consumer Information Service.



Forum geared toward motor sports

Auto Racing Forum, a new product on the Consumer Information Service, is open to anyone interested in motor sports in general and auto racing in particular.

The forum is managed by Racing Information Systems in Los Angeles, Calif., and contains sections of IMSA Series, NASCAR and Trans-Am, as well as Formula 1 and SCCA Amateur Racing. Rare results, current point standing and driver biographies are available in the forum.

To find the Auto Racing Forum, access the Home Services section, "Discussion Forums," or type GO RIS from any prompt in the Consumer Information Service.

New Additional Services Kit available at special price

The Additional Services Kit, which permits a Consumer Information Service subscriber to subscribe to the Executive Information Service at a special price, will be available at \$39.95.

The Additional Services Kit containing the Professional Connection software has been discontinued. You can purchase the Professional Connection, version 2.2, for the IBM PC, PC-XT and PCjr for \$59.95.

To order the kit, access the User Information section, "Order Products, Guides, etc."



Olympic Scoreboard adds data for Winter Olympics

During the 1984 summer Olympics, the Olympic Scoreboard was used to provide current standings and news about the games. Now that the games have ended, the scoreboard has been changed to include both current and historical information for the summer and winter games. You can find information on which country's athletes won any event in either the summer or winter games, as well as Olympic records for every event.

To gain more information about this expanded service, access the Home Services section, "News/Weather/Sports," or type GO USA from any prompt in the Consumer Information Service.



Services provide health care information for women

Several new services are available for providers and consumers of women's health care. One of these services, the American College of Obstetricians and Gynecologists, offers information resources including patient education booklets and technical bulletins on OB-GYN topics.

An OBGYN Forum, another new service, features an expert-of-the-week who discusses medical topics for professionals' continuing education and communication.

A section on Women's Health Questions and Answers features inquiries and their responses categorized by topic. CompuServe users are encouraged to leave questions they would like to see discussed and also to comment on the clarity of answers presented.

Finally, a preview of a book about computerizing the OB-GYN office is available. The book offers helpful tips to doctors who want to select hardware and software for their practices.

To find this information, access the Services for Professionals section, "Medical Menu," or type GO OBGYN from any prompt in the Consumer Information Service.

Hamilton Caine's Mystery Review now available on CompuServe

Hamilton Caine's Mystery Review will keep you up-to-date with the happenings in the world of intrigue with reviews of new books, movies, television shows and interviews with such authors as Stephen King and Ed McBain.

There is a library of short stories and a section of non-fiction that views the world of mystery and crime from the lighter side. The Mystery Trivia section is a regular feature, and each month you can practice your sleuthing prowess by writing a solution to the Finish-the-Mystery Contest. If your solution is selected, it will be published online and you'll receive an award from Caine.

To enter the world of mystery, access the Home Services section, "Entertainment," or type GO HTC from any prompt in the Consumer Information Service.

Book tells how to use CompuServe's Consumer Information Service

At last, there is an easy-to-read book on how to get around in CompuServe's Consumer Information Service. Titled *How to Get the Most Out of CompuServe*, this 278-page Bantam paperback book provides step-by-step instructions to everything the Consumer Information Service offers.

Written by newspaper journalists Charles Bowen (contributing editor to *Online Today* magazine) and Dave Peyton (forum administrator for the Good Earth SIG), the spiral-bound book gives a complete online tour of CompuServe, showing users how to access what they need — without running up huge connect-time fees.

How to Get the Most Out of CompuServe is a valuable reference guide for novices and experienced users alike. You can order your copy directly from CompuServe by accessing the User Information section, "Order Product Guides, etc.," or by typing GO ORDER from any prompt in the Consumer Information Service. Allow four to six weeks for delivery.

Family Computing Magazine Electronic Edition premieres

The *Electronic Edition* of *Family Computing* magazine, published by Scholastic Inc., is available on CompuServe's Consumer Information Service.

Here is a direct channel to the editors of this national magazine with a unique emphasis on computers in the home. Now you can read the latest news and reviews. In addition, you can give your reactions in "Talk to the Editors," or join the ongoing discussion in the Family Computing Forum.

Also, for the first few months, *Family Computing's Electronic Edition* will have a television section where users can communicate with the producers of the upcoming "Family Computing" television show on the Lifetime Cable Network.

To learn more about *Family Computing's Electronic Edition*, access the Personal Computing menu or type GO FAM from any prompt in the Consumer Information Service.

Win \$20,000 worth of diamonds in SAVINGS-SCAN contest

Diamond Jack's Gourmet Snack, now available in SAVINGS-SCAN's Gourmet listing, is a butter crunch-coated popcorn with pecans and almonds, but that's only part of its mouth-watering appeal.

Each box contains a certified gem — either a ruby, emerald or sapphire — and one box in 2,000 contains a \$1,000 diamond. In addition, there's a riddle on the back of the box that is worth \$20,000 in diamonds when you solve it.

Fresh Norwegian Smoked Salmon is another delicacy now available for delivery within two business days.

You'll find other gems in SAVINGS-SCAN's computer department. New software includes ALA, Sorcim and Imagic. In the modems section, Novation "Hayes Compatible Plus" products have been added, and new computer accessories include computer furniture, IDE expansion cards, hard disk systems, media storage systems and more. Additionally, brand-name monitors and printers are available at savings of up to 50 percent off list price.

To gain more information about these products, access the Home Services section, "Home Shopping/Banking," or type GO SAV from any prompt in the Consumer Information Service.

HOW TO DECIDE ABOUT YEAR-END INVESTMENTS

The biggest consideration at the end of the year for most people is how they can make decisions that will provide income tax breaks. It is a time when you're trying to decide which investments to keep and which to trade in. If you sell a stock that is not doing well, the loss might be used to offset some taxable income; if you have stock that is doing well and sell it, you have a capital gain.

When making such decisions, it is important to have access to timely information.

Subscribers to CompuServe have access to both tax and investment information. The Internal Revenue Service database (GO IRS) provides tax tips, a listing of publications to help you do your own tax returns and a Feedback area for questions. In addition, investment information can be obtained from several products that can help you decide where to put your money.

Paul Stocking, a financial product specialist at CompuServe, reports that the IRS Feedback area is popular because it allows people to question the government agency on tax topics they need to have clarified.

"Near the end of the year when you start getting everything ready, you don't really want to go to a tax specialist for a couple of questions," says Stocking. "You can simply leave a message, and it will be answered by the IRS. You don't have to leave your name, and you needn't worry about asking a question that could lead to an audit. All they require is a User ID number and the date and time the message was left. CompuServe won't divulge the name of any person leaving a message."

Stocking points out that answers to a lot of questions about filing tax returns can be found in Tax Tips of the IRS database, which provides answers to commonly asked questions about taxes, such as business expenses, child and dependent care, deductions and withdrawal penalties. Also, if you are interested in a particular subject, the online tax publications, which are keyword searchable, can be helpful.

Once you have all the tax information you require, you may decide to invest your money in something for the first time. If you already have money invested, you may choose to sell your existing securities and reinvest the currency.

Whatever you decide to do, you need to know where to put your money. CompuServe's financial products, which contain economic information and projections, will assist you in making the right decision.

"In order to make good decisions, you need some ideas of how the economy is going to behave," Stocking says. "Both Evans Economics (GO EEI) and Ask Mr. Fed (GO MMS) will give a general idea about what to expect about interest rates and where the economy might go in the future." (Ask Mr. Fed contains similar details, but it is a forum where you can ask questions.)

Another similar investment information service available through CompuServe is The Business Wire (GO TBW), which includes news of general interest to an investor — topics such as commodities, energy and the economy. Any of these areas could affect your investment decision.

The Donoghue Moneyletter (GO DON) is another valuable tool that CompuServe subscribers can access. Moneyletter, which also has a question and answer section, tells investors about mutual funds and money market certificates, the tax effects of various investments and what to look for when investing in these types of funds.

Once you've decided on the general type of investment you want to make, you'll want to use CompuServe's products for researching the financial histories of various companies. You can get historical quotes and projections of how well stocks will do in the future. Once you know you are interested in stocks, you can use CompuServe's Value (GO FIN-56) database to screen more than 57,000 stocks and narrow down the possible choices. You can go to Value Line (GO FIN-55) and do a fundamental analysis of the companies you are interested in to determine their financial stability. You can then obtain income statements and balance sheets with figures on earnings and assets.

Value Line also provides annual and

quarterly financial statements, forecasts of earnings and data retrieval. Subscribers may request from one to five years of information on each report containing financial statements and balance sheets.

Other services to look into when considering buying or selling stock include The Investors' Forum, Investment Analysis, Ticker Retrieval, Quick Quote and I/B/E/S.

The Investors' Forum (GO IQ-900 on the Executive Service) deals specifically with the stock market and money market certificates. Trends are discussed. The opinions are those of personal investors (any stockholder or homeowner investing money). Investment Analysis (GO IQ-1 on the Executive Service) helps you know how a stock has done over a period of time. You can calculate the percentage annual return over a historical time period.

You can also get 20-minute delayed stock quotes from Quick Quote (GO FIN-20), which provides quotes from the New York Stock Exchange, the American Stock Exchange and Over-The-Counter Trading. Quotations are updated periodically during the day and include traders on the major U.S. exchanges, as well as OTC activity reported by Instinet and the National Association of Securities Dealers.

I/B/E/S (GO IQ-600 on the Executive Service) is a collection of corporate earnings projections. "Information of that sort is valuable to people who invest," Stocking says. "It is valuable because security prices reflect expectations of future earnings."

One other database Stocking recommends checking when buying or selling stock is Market Highlights (GO FIN-47), which provides statistics on the different exchanges, including information on the 20 most active stocks. This includes those that have recorded the highest gains within the last six months, stocks that have recorded the biggest losses within the last six months and stocks that have gone down within the last five days.

When you're trying to make those important year-end investment decisions, look to CompuServe's financial products for timely information and analyses.

— Robert Loomis

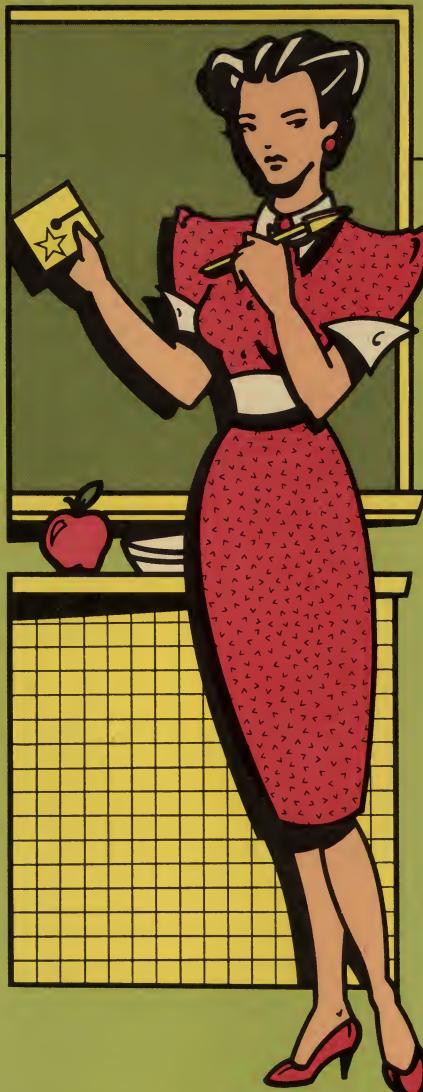
EPIE PROVIDES EVALUATIONS OF COMPUTERWARE

Maybe you're a teacher selecting software for the microcomputers in your classroom, an education professional wanting to stay abreast of computer product developments, or a parent searching for quality hardware and software at reasonable prices. Whatever your interest in educational computer products, you'll find answers to your questions in EPIE ON-LINE, a new educational database on CompuServe's Consumer Information Service.

Provided by the EPIE (Educational Products Information Exchange) Institute, the database is mainly about microcomputer hardware and software for education. Serving as a "watch-dog" for educational consumers, the EPIE Institute's purpose is to supply independently researched publishing information so that consumers can save time and money in purchasing educational products. This information is disseminated through various media, including books, newsletters, reports for consumers and workshops.

Recently, the EPIE Institute and Consumers' Union joined forces to provide the microcomputer information available in EPIE ON-LINE. To maintain objectivity in discussing educational hardware and software, the EPIE Institute does not accept support from educational companies or take product advertising in its publications; the EPIE Institute's funding comes from memberships, state contracts and private foundations. "The Ralph Naders of educational software and hardware" is how Cindy Silvani-Lacey, CompuServe's educational product marketing specialist, describes the EPIE Institute.

The institute decided to offer its information online, Silvani-Lacey says, "because they realize the videotex environment is a useful, dynamic supplement to print publishing, an adjunct to it rather than a replacement." EPIE ON-LINE will be available to all Consumer Information Service subscribers at regular connect rates (no surcharge) through December 1984. Thereafter, individuals residing in school districts with EPIE memberships or in states contracting with EPIE for services will still be able to access the database



without paying a surcharge.

EPIE ON-LINE contains a searchable version of TESS (The Educational Software Selector), Micro Pro/files (hardware evaluations), EPIE Forum, education news and events, a Feedback area and information about other EPIE Institute Services.

TESS, the software information section of EPIE ON-LINE, allows users to find specific educational software in a database containing descriptions of thousands of products for microcomputers commonly used in schools. Information about instructional software for all subjects and products for administrators is included. The database also provides policy information, such as quantity discounts and warranties, for more than 500 software suppliers. Summaries of the EPIE Institute's courseware, Pro/files, were recently added to TESS.

Users can describe the software or supplier desired by choosing any combination of 20 attributes listed. TESS has more than 5,000 educational soft-

ware entries in such categories as instructional, courseware, management, school library and student guidance. Citations to reviews of many of these entries, as well as contacts in schools that have purchased specific software, are included.

The EPIE Institute wanted to provide consumers more current information, especially with TESS, according to Bob Haven, the EPIE Institute's director of database development. The print version of TESS comes out once a year, but the online version of TESS, available in EPIE ON-LINE, will be updated monthly.

"Also, we wanted to give people the capability of searching selectively in a more flexible format," says Haven. The 1985 print version of TESS will be about 900 pages. With the online version, users can choose the attributes they're looking for in software and find the right products quickly.

EPIE Forum is a way for users to communicate among themselves and with the EPIE Institute about educational microcomputer products.

Including a message board, conferencing facility and database library, the forum can be accessed from the main menu for EPIE ON-LINE. EPIE Forum's database library has sections on software, hardware, equity and home/school concerns. By "equity," Haven means the equal opportunity of access to electronic capabilities across different socio-economic groups. The EPIE Institute is trying to make people aware of the problem of unequal distribution of computer hardware and software among school districts. As for home/school concerns, Haven says the EPIE Institute's viewpoint is that parents and school personnel should cooperate by sharing information about the kinds of hardware and software being used and by setting up school/parent cooperative programs.

The EPIE Institute is in the process of developing a users' guide to help consumers use EPIE ON-LINE more efficiently.

To find information to help make decisions about educational microcomputer hardware and software, enter EPIE ON-LINE by typing GO EPI at any prompt in the Consumer Information Service.

— Mary Mitchell



SKIING ON COMPUSERVE

If you are one of those people who hails the coming of winter with such slogans as "Think Snow" and "Have an Ice Day," you'll want to check into the Ski Forum and the Skiers Information Service before you wax down your skis and head for the snowy slopes.

Both services on CompuServe were begun one year ago by Denver, Colo., resident Jim Comstock. The Ski Forum (GO HOM-36) is a special interest group for skiers who want to communicate with each other and with the American Ski Association. Members exchange information and tips on trails and resorts around the world. Sections include lodging, instruction, slopes, travel routes, after-ski activities, equipment and more.

In addition, many of the ski resorts are providing online information this winter and will be able to answer subscribers' questions related to trail conditions, reservations and nightlife spots.

Although there are only a few hundred members of the forum, more than 10,000 users checked in last year. Comstock expects that number to double during the 1984-85 ski season.

Also on CompuServe is the Skiers Information Service, a separate database (GO SKI) that serves as a link between the recreational skier and the ski resorts. The database is designed to provide skiers with the best possible rates and resort information.

"The purpose of the Skiers Information Service is to give complete information on all the ski resorts in the United States, including vertical feet of snow, lift prices, number of lifts, types of slopes, average snowfall, telephone

numbers, child care facilities and acceptable credit cards," explains Comstock. This information feat is accomplished through the services of the American Ski Association (ASA) and Ski Card International. These organizations provide online directories of their membership benefits and discounts on lifts, lessons, lodging, travel, equipment rental and other aspects of skiing.

Information is presented through the Ski Area Guide in a menu form with topic areas selected by the name of the resort, date, state and free ski days.

Although any CompuServe subscriber may peruse the listing of discounts, only members of the ASA and Ski Card International may take advantage of them. Membership information is available online.

Both the Ski Forum and the Skiers Information Service are busy during the winter, but as spring comes and the snow melts, so does users' interest wane. Rather than putting the forum and database on ice for the summer, Comstock is planning to include information on summer sports available at the nation's ski resorts.

— Cathryn Conroy

SEAWAR GAME POPULAR ON COMPUSERVE

You stand on the helm of the last battleship in your once great fleet. As you watch, an allied aircraft carrier sinks into the rough sea. Somewhere out there the enemy waits with a submarine. He lurks, waiting for you to make the mistake — or slight miscalculation — that will give him the edge in this war of nerves and guns. You remember the poem by John Rooney:

*The steel decks rock
with the lightning shock,
and shake with the great recoil,*

*And the sea grows red
with the blood of the dead
and reaches for his spoil -*

*But not till the foe
has gone below
or turns his prow and runs,*

*Shall the voice of peace
bring sweet release
to the men behind the guns!*

After all, your opponent is only human, too. The mistakes are his to make. At that moment sonar reports a submarine moving toward the enemy port. It must be low on ammunition. The time is at hand.

You give the order to maneuver into its path. Now it must pass your battleship to refuel and resupply. Like a cornered animal, it strikes. A torpedo explodes in your engine room, disabling the ship. Your battleship's heavy armor is swung into position at your command. The order to fire is issued. A great fountain of water and fire erupts from the ocean. As you see the oil slick spread over the sea, you realize that the battle is over and you have won. The price has been paid — by your enemy.

Such is the excitement in the game of *SeaWar*, one of CompuServe's newest multiplayer game offerings. *SeaWar* features full-screen character graphics and fast action. Utilizing the cursor positioning and graphic capabilities of VIDTEX™ and popular terminals, *SeaWar* reduces the amount of time spent waiting for board updates. At 300 baud, *SeaWar* is the fastest game on the network.

There are four ways to enjoy *SeaWar*. The first way is to enter *SeaWar's* "War Room." The War Room, an area much like CompuServe's CB Simulator, is



where friends (and foes) get together to discuss the evening's battles. Just as in the CB Simulator, anything you key in goes out for all to read and, as in CB, commands begin with a slash (/).

Another way to enjoy *SeaWar* is to play against a computer opponent. You set the skill level at which the computer plays, increasing the difficulty as you master the easier levels. Just type /PLAY for this feature.

SeaWar can also be enjoyed by

merely watching others play. Simply key in /WATCH to observe other players in action. This is a good way to learn how your future opponents react in crisis situations. You can learn some tricks or evaluate enemy tactics for countering strategies.

Finally, you can play against one to three real opponents. You specify how many and how advanced your opponents will be, so the other players are not too skillful for you. (Or if you are

proficient, you can screen out less skilled players and play only those who can provide a challenge for you.) Watch for tournament announcements in either What's New or in the MultiPlayer Game Forum (GO GAM-300) for competition in this exciting method of play.

You can play *SeaWar* by typing GO GAM-57 at any prompt in the Consumer Information Service.

— Scott Killen



Q: I received a complimentary CompuServe Snapak through a modem purchase. If I subscribe and purchase a User's Guide through Product Ordering, will I receive any free time along with the User's Guide, as users who purchase Starter Kits do?

A: You are entitled to one free hour with the use of your complimentary Snapak. The free time associated with the purchase of a Starter Kit is exclusive to the Starter Kit and does not apply to the purchase of a User's Guide. A description of what is included in the Consumer Service Guide is available in the Product Ordering section (enter GO ORDER at any prompt in the Consumer Service).

Q: I have received my permanent password from CompuServe and now my first one does not work. Does this mean that the free time I have left is lost now?
A: No. CompuServe keeps track of your free time through your User ID number, not through your password. Even though your password has changed, your User ID number does not change. You will still receive your remaining free time.

Q: What is the Checkfree Billing Option?
A: Checkfree is an electronic billing option. Your bank will make the payment for your CompuServe account. Payment is on the 17th day of each month, or the next business day if the 17th falls on a weekend or holiday.

Ten days before the payment date, CompuServe generates a statement, which is sent to you through the mail. Also, your bank records the payment on your checking account statement, just as a regular check. Since the entire process is electronic, it is a cost effective method for your bank, CompuServe and, most important, yourself.

Q: When I access CompuServe, I frequently use my printer. I noticed that your rate sheet lists a "line printer" service charge. Will I be charged extra for using my printer while accessing your service?

A: The line printer charges noted on the rate sheet refer to CompuServe's on-site line printer service. These charges do not refer to use of your own printer.

Q: I am thinking about buying a new modem and want to be sure that it's compatible with your service.

A: Be sure that your modem can access our service using the following parameters:

300 or 1200 baud
7 bit ASCII even parity or 8 bit ASCII no parity
1 stop bit full-duplex

Ask your dealer if your present hardware and software will support the new modem while you're using the CompuServe Information Services.

— Mary Conway, Debra Durkin, Kevin Pica, Heather Roberts, Linda Winowitch

UPDATE-D GIFT OF TIME

The CompuServe Information Service and *Online Today* would like to use your input on practical, useful, creative ways of using CompuServe.

Online Today offers subscribers the chance to write a 200-word essay on how they use the information service. For example, do you use CompuServe in your business or to write programs? Do you use CompuServe in education or for professional activities? How does your family use CompuServe?

Your essay should be typed double-spaced and should be sent either through the postal service to *Online Today*, CompuServe Incorporated, 5000 Arlington Centre Blvd., P.O. Box 20212; Columbus, OH 43220, or by sending an Email message to 70003.1661.

Should we use your column, you will receive 10 hours of standard service connect time (a \$60 value), a byline and the fun of seeing your column printed in *Online Today*.

Copy is due the first of each month preceding the cover date. Please include your full name, address and User ID number. *Online Today* reserves the right to edit all material.

Technical writer uses CompuServe for online research project

As a long-time user of CompuServe, I have taken advantage of most of the system's features. However, I had not realized the full potential of the CompuServe Information Services until, as a technical writer, I received a "rush" project.



My needs for the assignment included doing research, talking to industry experts and traveling out of state for interviews. I dared myself to see how much of this I could accomplish through CompuServe, and I was quite surprised at the time, effort and money that CompuServe's Consumer Information Service saved me.

I tackled the research by getting a good overview of my subject from Grolier's *Academic American Encyclopedia* online. The AAE was very helpful as it contains information not available in the local library.

I found Consumer Information Service forums whose members included some of the industry experts my project required. A few evenings of online "consultations" gave me the insight and data I needed.

Then it was CompuServe to the rescue again; I was able to plan many details of my out-of-state activity including hotel prices and airline reservations online. I also checked the weather in my destination city before I got there. (Good thing, too, it was raining cats and dogs there!).

I can state without a doubt that my CompuServe Consumer Information Service subscription is worth more than the nominal charges. I saved a great deal on this project and completed it ahead of schedule.

You can bet your keyboard that I am going to continue benefitting from CompuServe's Information Services in the future.

Joseph Rotello Jr.
CompuSystems Management
Tucson, Ariz.

NETWORK ACCESS PROBLEM EXPLAINED

If you're in a city with a local CompuServe access number but are accessing CompuServe's information network by using TYMNET or Telenet, you may be paying the gateway surcharge unnecessarily.

Billing information provided to CompuServe by these two gateway carriers indicates that there are hundreds of hours of usage each month from locations where CompuServe has local dial access. A portion is legitimate usage through TYMNET or Telenet FDXs (foreign exchange data) into major city locations; however, some usage is the result of people unnecessarily accessing CompuServe through the gateways.

CompuServe's network coverage is changing almost daily. If you're in a city that formerly did not have a local CompuServe access number, type GO PHONES at any prompt in the Consumer Information Service. You may find that you now have a local CompuServe access number.

When CompuServe evaluates locations for possible installation of local access, several factors are taken into consideration. The most important factor is whether or not there is a strong user base to support the cost of having equipment installed in a particular location. Average usage charges of about \$2,500 per month are required to offer local service. CompuServe has three user communities to draw from — commercial timesharing users, information service users and users of network services. When interest from any or all of these user communities is strong enough, the location is added to our installation schedule and the search for office space begins.

If you have particular interest in seeing local access installed in your city, write to CompuServe's manager of network administration. Include general information about your city, such as population, resident businesses and local computer clubs. Any information you have about telephone company exchanges would also be helpful. The information should be sent to CompuServe Corporate Headquarters, 5000 Arlington Centre Blvd., Columbus, OH 43220.

A FEW WORDS ABOUT CHANGING YOUR PASSWORD

The CompuServe Information Service urges its customers to change their password(s) at least once a month.

The password should be at least eight characters comprised of two unrelated words separated by a symbol, for example: HOUSE*MAGNET.

It never hurts to be safe, but almost always hurts to be sorry. By changing your password frequently, you eliminate the risk of someone else illegally using your account. Changing your password correctly — and often — means never having to say you're sorry.

For more UPDATE articles featuring constantly-updated product and system news, enter GO UPD from any prompt in the CompuServe Consumer Information Service.

PLAYING AROUND ON COMPUERVE

Come on, admit it. When you first bought a personal computer, along with business software, word processors, a printer and a modem, you held out just a bit of cash.

And you bought some games, "just to help you get used to the keyboard," didn't you?

Despite the low number of computerists who admit they're into games, game software sells like candy. When a new game from a popular software author appears, stores end up with a month's worth of back orders. Nobody talks about the games, but we all play them.

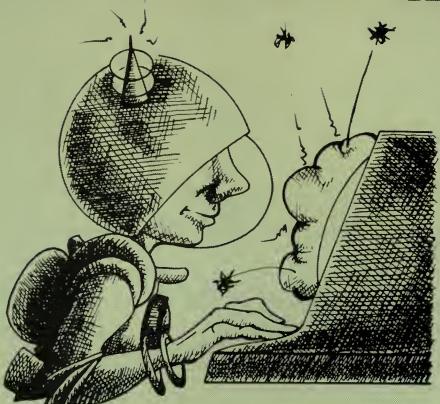
There is one drawback to computer games, though: virtually all are variations on solitaire. Even the role-playing games that advertise "For one to six players" are really just one-player games in which the player creates six roles — and plays all six without help.

The exception, of course, is available only on a computer network. Because a network links together many computer terminals — and terminal operators — you can enjoy the company of others while you battle your way through a dungeon, across a sea of stars or into a battlezone. On a multiplayer system, computer games are no longer a solitary sport.

CompuServe's multiplayer games cover a variety of interests. Card aficionados can play multiplayer *Blackjack*. Wargamers will find *SeaWar* and *SpaceWar* of special interest. Fans of interplanetary battle have their choice of three different versions of *MegaWars*. And by the time this column sees print, a multiplayer version of *Dungeons and Dragons* will be online.

As with any game, newcomers find the expertise of long-time players more than a little daunting. Indeed, it would be worrisome if that were not the case. A good game is complex enough to hold your interest, not just whet your appetite!

How, then, do you join in? First, don't try to start with the harder multiplayer games. *MegaWars III* is fascinating; it's also quite difficult, involving not only battles and strategy but also planetary planning, government and a careful allocation of your team's resources. *SpaceWar* is easier to learn and serves as a useful introduc-



Illustrated Alaskan Moose

tion to the multiplayer process. *Blackjack*, too, can help you get accustomed to this mode of play and requires little more than an understanding of the card game.

Second, jumping right in without familiarizing yourself with the rules and commands won't work. The different games require different commands and approaches. You can be an expert at solitary wargames and still watch your ship be blasted into atoms in *SpaceWar*. So when you first see the menu for any game, *read the instructions*.

Finally, consider going to the Feedback area and ordering a full set of instructions. While the first menu item on any of the games menus will give you a primer, full-scale documentation is indispensable. Attempting *MegaWars III*, in particular, without the guidebook can be an exercise in futility.

For the moment, though, you want to jump right in. Naturally, you want to be sure you like multiplayer gamesmanship before you shell out hard-earned dollars for the instructions to the harder games. So let's take a closer look at a relatively easy game, *SpaceWar*.

To reach the *SpaceWar* instructions, enter GO GAM-114. This is not the menu page but the first page of documentation. When it stops scrolling, simply enter an "S" for the rest of the online guide. The rulebook is brief and to the point. If you have a printer, make a hard copy for later reference.

The brevity of the instructions makes *SpaceWar* look even easier than it is. Don't be fooled. Your first few ships will go down in flames. But don't get frustrated either. When you become familiar with it, your skills will improve.

Remember that those other ships shooting at you are not mere computer simulations — they are other players, humans like yourself. This is a *multiplayer* game; the computer serves as the gameboard and referee — not as your opponent. The result is an added element of surprise. There is no com-

puter pattern to figure out. Those are people running the other ships, and they are less predictable than the inevitably recurring programs you get in solitary computer games.

In fact, you can talk to those other players with the "T" command. Note each player's number by entering "U," and then enter "T#" to address the player. You can ask for advice, issue threats or even work out a temporary alliance. There's no guarantee that the other player will agree to your suggestions, but if it's to his advantage — why not?

Pay special attention to the capacity to combine commands. If you enter your commands one at a time and another player sees your slow movements, he'll likely enter "LMMMMF," and, *wham!* You've been hit amid ships. With that one line, the other player turned left, moved forward four sectors and fired. You, meanwhile, have been trying to do the same thing with five separate commands. All multiplayer games move fast; you have to link your commands together to keep up.

Confused? Remember the help command. All the multiplayer games include some version of this system-wide order. On *SpaceWar*, entering "H" will scroll the help file for you. Remember, it's better to take a moment to be sure than to take a risk that loses your ship instead.

Aid and comfort are not limited to the help command. The high popularity of multiplayer games led CompuServe to provide a forum where gamers could meet, exchange strategies, and even discuss changes and possible improvements in the game programs. If you investigate the GAM-1 menu, you'll notice more than one Special Interest Group specifically focused on these sports. "Gamer's SIG" covers all computer games, on and off the system. "Multiplayer Games SIG" (also known as "War-SIG") deals with all the multiplayer games, with a strong focus on *MegaWars*. Both have database libraries loaded with more information for the enthusiast.

It's no sin to enjoy your computer. Handy though it may be for work, your terminal is equally versatile at play. So join in with your fellow secret game addicts — just for the fun of it.

Alex Krislov is a free-lance writer from Cleveland. His CompuServe User ID number is 70007,2130.

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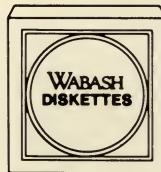
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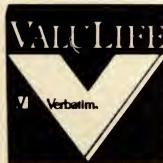
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Chapter 14

ONE YEAR ON THE ROAD — A RETROSPECTIVE

Editor's note: Steve Roberts, Online Today's nomadic journalist, is currently traveling around the United States on a recumbent bicycle. He uses a Hewlett-Packard 110 Portable for both writing and communications. During this trip, which is expected to cover 20,000 miles, Roberts is writing regular columns for Online Today, as well as a book entitled Computing Across America, which will be published in 1985 by Simon & Schuster.

The aspens are changing. Big Bird and his countless offspring appear to have taken over the hills around Telluride, blazing yellow in the high mountain sunshine and startling the eye with every turn. The scene is far too dramatic to be real: massive peaks, dusted with fresh snow, jut from the brilliant yellow-green slopes into a dazzling blue sky, while around me swirls the somehow playful daily life of this scenic Colorado town.

I have been on the road a year.

A year! Has it really been that long since I executed a few unsteady figure-eights for the TV cameras in CompuServe's parking lot and then pedaled westward with sore knees and a crazy dream? I realize now that the adventure can go on indefinitely. It is no longer just a trip, it's a lifestyle.

Oh, I will stop someday of course. I'll fall in love, get sick of living out of panniers or find a town that I just can't bring myself to leave. It will probably begin as just another routine layover. Then I'll suddenly realize that I've been in the same place for months and that the dusty bike no longer holds quite the same allure.

As haphazard as that sounds, it's a healthy approach. I met a small group of cyclists a few months ago, cranking out a painful succession of 100-mile days because they "had to be in San Francisco by Aug. 5. Their memories were filled with white lines on the highway, pain, food stops and campgrounds. They had no time for adventure, no time for love. Their respect for where they were had long since evaporated in the heat of obsession with where they were going.

They were missing the magic.

Well, in the past year, I've had a lot of magic. I have also had times of loneliness, fatigue and frustration. The oth-



er day, a fellow looked me in the eye and asked, "Come on, all BS aside, why are you doing this?"

"Well, there's something that has become almost a cliche in the literature," I replied. "It's that old question: What would you do if you had only a year left to live? I thought about that for a while, and decided that having 40 years left to live presents exactly the same problem. You have to make every minute count."

"That's fine for those who can get away with it," he said. "And I'm not sure how many would go chasin' off on a bicycle. But I see your point. I guess I'm just waiting for retirement." He thought a moment. "I reckon that's kinda depressing, when you stop to think about it."

Yep. I'm far too impatient for that.

There have been a lot of changes in this first year. The Radio Shack Model 100 has given way to the much more robust Hewlett-Packard 110, replete with a 3.5-inch disk drive. The Push bicycle computer has given way to the reliable and sexy Cat-Eye Solar. System weight is up to 190, the tent is larger and the entire load is now streamlined under a custom-made waterproof cover conjured by a magical lady in Santa Fe.

A few numbers. In one year of high-tech nomadics, I have covered 7,355 miles — an average of just over 20 miles per "real day" or 61.5 per "cycling day" (of which there have been 98). No, don't reach for your calculator — the discrepancy arises from chasing around towns during layovers. The longest single day was 136.4 miles from Aspen to Grand Junction, Colo.; the shortest was 0.1 mile from Orange, Texas, as to Orange, Texas. (Rain.)

There have been ten flat tires, three of them caused by a product designed to prevent flats. My highest speed was

48.8 mph, with a lot of help from gravity — a force for which I have a profound new respect. The highest altitude I have reached on the bike was 11,361 feet at Slumgullion Pass, and the lowest was 0.

I have ridden in 17 states so far, and spent the longest time — four months — in Florida; friends were starting to accuse me of settling down. The northernmost point was Washington, Pa.; the easternmost was Rodanthe, N.C.; the southernmost was Key West, Fla.; and the westernmost was Grand Junction, Colo. Of all the places I have visited, Colorado's charming and comfortable Crested Butte most captured my fancy. I could even live there, were it not for the winters.

The most imaginative comment about the bike that I've heard in all these miles was spoken in Hammond, La.: "Wow! That looks like something out of a non-violent version of *The Road Warriors!*"

The most stupid question can be attributed to a tourist in Santa Fe who asked, upon looking at my map of the trip so far, "So tell me, where are you now?"

Perhaps the most perplexing piece of travel advice was offered by a grizzled fellow in east Texas, after I told him I was headed for the Rocky Mountains. "You're crazy," he said. "It's uphill all the way! Oh, you may go downhill sometimes, but even when you do, you're gaining elevation."

And so begins the second year of a nomadic existence fueled by a computer technology bordering on the miraculous — along with that fine edge of madness that can make just about anything possible.

Steve Roberts publishes a more current account of his adventure in a CompuServe database (GO CAA for details). His CompuServe User ID number is 70007,362.



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ECHO II Speech Synthesizer

Street Electronics Corp.
1140 Mark Ave.
Carpinteria, CA 93103
805/684-4593

Computers: Apple II and IIe, IBM PC.

Operating Systems: Apple DOS 3.3, PC DOS or MS DOS.

Media: One disk drive.

Required Peripherals: None.

Other Requirements: "Textalker" diskette (supplied with synthesizer).

Optional Items: "Works" program disk (Apple only).

System used for test: 64K Apple IIe with two disk drives.

List Price: \$149.95

Reviewed by Alex Krislov

Talking computers are a staple of every old science fiction movie. They spoke in monotones but clearly. They spoke unemotionally but always understandably. Somewhere in the heart of every computer user is the wish to hear his terminal's voice.

Voice synthesizers fulfill that wish. The *Echo II™* speaks in a variety of voices, supplying variable pitch, different speaking speeds and a variety of programs to get the words you want out

of your computer. Some of the programs drive themselves, sending any entered words or letters directly to the speaker. Others are designed for inclusion in your own programs.

Two programs are central to using the *Echo*, "Textalker™" and "Speakeasy™." Each tells the synthesizer to speak your input aloud, but the former is word-oriented, while the latter accepts phonemes.

"Textalker" allows limited changes in pitch, speed, volume and tone. These useful functions require relatively little work. Choosing between "compressed mode" (a voice that speaks swiftly) and "normal mode" (a moderately slow voice) requires only simple two-keystroke commands. Pitch and volume are equally easy to control.

The program also permits a choice between having each word pronounced or each letter and punctuation marks. This last option may be of special use to the sight-impaired. Realizing that the blind are a natural market for voice synthesizers, the makers of *Echo* incorporated special single-keystroke commands for easy — and audible — search and review of material in the "Textalker" program as well.

While relatively easy to use, the program's English language orientation can be disorienting. Many words don't really read like they sound. To pro-

REVIEW/HARDWARE

duce my own name, for example, I had to enter "Ah leks krizlauv." Finding that formula took a fair amount of experimentation. The limited control over pitch is another drawback. While the basic pitch may be varied with a potentiometer on the *Echo* card, this card rests inside the computer; opening the computer each time a new "voice" is desired is hardly convenient.

"Speakeeasy" is considerably harder to use, but it is also more versatile. Using phonemes rather than English words, the program allows you to write directly in terms of the pronunciation you prefer. The phoneme chart is complex, using such symbols as "#" for "ow," "/" for "ng" and "!r" for "ire," but once learned, the chart provides a useful shorthand that saves the user endless experimentation.

An additional advantage is the incorporation of inflection, pitch and volume into the phoneme-constructed words. A much truer "voice" can be obtained with considerably fewer keystrokes than "Textalker" requires. The serious user will want to learn these commands and symbols in order to avoid a robotic voice of limited comprehensibility.

Both "Speakeeasy" and "Textalker" can be incorporated into user-written programs. Information on both BASIC and machine language is included in the manual. "Textalker" will also interact with any BASIC programs that do not require rebooting the system, although the curious pronunciations of some words limit the usefulness of this feature.

The documentation for these two central programs is adequate, though not exhaustive. Much must be learned by experimentation. More problematic is the absolute lack of documentation on some of the other programs provided. While a spelling test, vocabulary storage and phoneme translator are all provided, they are barely mentioned in the manual. Still, none of these problems prevents full use of the *Echo*'s major purposes.

All in all, this voice synthesizer is flexible, capable and well considered. Getting the most out of it requires work, but the chance to hear your terminal's voice just might make that work worthwhile.

Circle 8 on the Reader Service card or GO EBB.

MULTIMODEM: A Snappy 300/1200 Baud Modem

Multi-Tech Systems Inc.
82 Second Ave. S.E.
New Brighton, MN 55112
612/631-3550

Computers: Any with serial communication port.

Operating System: Not applicable.

Media: Not Applicable.

Required Peripherals:

Asynchronous serial communication board (RS-232C); RS-232C cable with male connector at modem end.

Other Requirements: Suitable communication software, preferably designed to transmit Hayes Smartmodem commands.

Optional Items: Reconfiguration adapter, custom connector or similar device to jumper signal lines if necessary.

System used for test: (1) COMPAQ Portable Computer (IBM PC compatible) with IBM Asynchronous Communication Adapter, (2) Morrow Micro Decision MD3 (CP/M) using serial printer port, and (3) Morrow Decision 1 (S-100 CP/M) with three-port Morrow Multi-I/O serial interface board. Running varied communication software on each system.

List Price: \$549

Reviewed by Ernest E. Mau

MultiModem (model MT212AH) is an "external" modem usable with any computer having an RS-232C asynchronous communication port. Like many other modems, this one is an "intelligent" or "smart" modem. It provides either 300 or 1200 baud and has auto-dial, auto-answer and other features expected of today's modems.

MultiModem emulates the command structure, S-registers, result codes and option switch settings of the ever-popular Hayes Smartmodem. A wise move since Smartmodem is the *de facto* standard for microcomputer communications. Virtually all commercial communication software and many public-domain programs supporting external auto-dial modems configure most easily for a Smartmodem. Usually, these programs work well with only an arbitrary sampling of other brands and only marginally well with even more brands. Since *MultiModem* is

largely compatible with Smartmodem, it can be used easily by most people who have structured systems around such software or around the Hayes Smartmodem itself.

Two exceptions! The manual for this model clearly states that it does not work with Hayes Smartcom II or Epson Valdocs software. Those programs use certain special Smartmodem commands not included in *MultiModem*. However, another model, *MultiModem HC*, claims to be 100 percent compatible and capable of working with those programs.

Yet, imitation is not the key to a successful product, and modems are best differentiated by special features. *MultiModem* is special, going beyond the Hayes Smartmodem with additional features that make it highly attractive.

First, it stores up to six telephone numbers in a battery-supported memory, with each number allowing up to 31 digits. Each number may have built-in pauses, use pulse or tone dialing, or switch from pulse to tone and back again. The latter is usable with long distance services accessed via pulse systems but requiring tones for subsequent log-on and connection. How useful the stored numbers will be is of some question since many software packages deliver their own dialing instructions from the program. Nevertheless, stored numbers can be convenient for programs lacking that capability.

There's a provision for linking stored numbers so the modem can progress from one to the next if it encounters a busy line. Linking instructions are limited to 16 characters, so up to seven numbers can be sequenced (two characters each, plus two for the "attention" command). Again, this is potentially valuable for heavily used or frequently busy numbers. Of course, automatic redialing of the last used number is available as well.

Operations progress quickly because *MultiModem* has busy-signal and dial-tone detection, with three new response codes added to the five codes of a Smartmodem. No need to wait for an abort timer to redial or link numbers. No restriction to "blind dialing" (no dial tone) operations either. No premature disconnection from an abort timer when the called number takes a few rings longer than usual to answer.

Naturally, *MultiModem* contains the full complement of expected features,

including selection of half- or full-duplex, verbal or numeric response codes (verbose or terse), escape codes in both originate and answerback modes, hangup on loss of carrier signal, and others.

A jack for a telephone set is provided, but I don't use it. Instead, I prefer a "Y" connector on the telephone line, which works just as well.

An internal speaker can monitor call progress, going silent when the modem connects. On the test unit, the speaker was unusually quiet. At full volume, it was barely audible. That's probably just as well since I don't care to hear tones, pulses and carrier signals anyway. Besides, audible feedback isn't necessary with good software.

I like *MultiModem*. On three systems and with nearly two dozen communication packages, including CompuServe's VIDTEX™ and Executive Information Service software, I had no problems. Software was easily configured, and data transmissions were clean and error-free. Documentation of differences between *MultiModem* and Smartmodem is complete and understandable, so any software reconfigurations I felt advisable were accomplished without trouble.

Eight DIP switches (paralleling a Smartmodem), two jumpers for Vadic equalizers sometimes required by remote systems, and a memory-supporting battery are inside and were readily accessible once I succeeded in opening the unit. I had trouble opening the molded, snap-lock, plastic case the first time, even though the procedure is fully explained in the manual. A little patience, resisting the urge to use a hammer and chisel, paid off. Having opened it once, I've had no further problems.

MultiModem is a superb product. It offers a great many attractive features, and it worked reliably during more than 200 hours of data transmissions. It should handle most data communications needs almost effortlessly.

Circle 9 on the Reader Service card or GO EBB.

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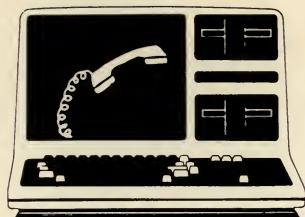
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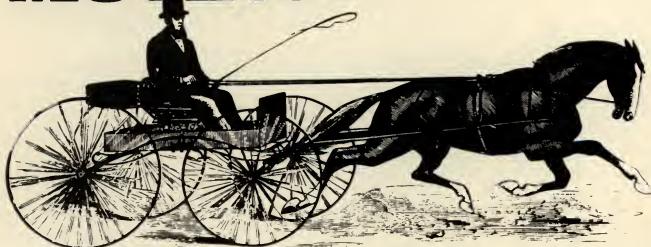
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SUPERSTAR: Painless WordStar Customization

Relational Solutions Inc.
5857 S. Gessner, Suite 103
Houston, TX 77036

Computer: IBM PC and PC-compatible computers.

Operating System: MS DOS (PC DOS).

Media: Two disk drives required.

Required Peripherals: None.

Other Requirements: None.

Optional Items: Hard disk.

System used for test: IBM PC with WordStar.

List Price: \$29.95

Reviewed by Meryl Cohen

SuperStar is a simple, menu-driven program that allows you to customize WordStar. It creates individually customized versions of WordStar, without altering MicroPro's original vanilla version. With *SuperStar* you can easily predefine margin widths and line spacing, redefine special and function key settings and change the display colors.

On a color monitor, you get the full range of 16 foreground and 8 background colors; in black and white, *SuperStar* offers you the option of reverse video.

SuperStar, a potentially delightful program, suffers from several annoying flaws. For instance, neither *SuperStar* nor customized versions of WordStar reset your monitor colors when you exit. To regain your usual screen setting, you must either reboot or use another application that resets the screen attributes.

In addition, although *SuperStar* is easy to use once you figure it out, the instructions and the help provided with each menu are inadequate. It takes more time to learn *SuperStar*'s peculiarities than it should ever take to use the program.

SuperStar is a worthwhile program; it makes WordStar considerably more flexible and friendly. However, had Relational Solutions taken extra time to smooth out the program's rough edges, the program would be truly superior.

Circle 11 on the Reader Service card or GO EBB.

WORD-PLOT 2.0: A Simple Character Graphics Plotter

Associated Technology Co.
Rt. 2 Box 448
Estill Springs, TN 37330
615/967-9159

Computer: IBM PC, versions for other computers expected soon.

Operating System: PC DOS 1.1 or 2.0.

Media: One disk drive required.

Required Peripherals: Printer, word-processing software.

Other Requirements: None.

Optional Items: None.

System used for test: IBM PC with WordPerfect, WordStar and Okidata Microline 92 printer.

List Price: \$19.95

Reviewed by Meryl Cohen
and Mark Bernstein

WORD-PLOT 2.0 is a simple program that produces graphs using character graphics. Using the standard IBM PC character set, it works with the monochrome board and most PC DOS-compatible word processors.

WORD-PLOT accepts manually entered sets of coordinates, up to 200 per data set. It plots up to three data sets at once, using either numbers or month names as tic-marks. You can choose grid and plot sizes, or let the program select them automatically.

WORD-PLOT can save data in two forms: as a set of plot points or as a "picture" of the plotted graph. Data sets can be retrieved and used in different graphs. Pictures can be retrieved with a word processor or printed directly.

No instructions explain how to make *WORD-PLOT* work with a word processor. (We tried using "picture" files in word processors like any text files.) Although *WORD-PLOT* is supposed to work with any PC DOS-compatible word processor, it did not work with WordPerfect, one of the two we tried. It did work with WordStar.

This program has several drawbacks. Its best use is for low-resolution plotting only. The default size choices do not leave room for margins. An unfortunate deficiency not mentioned in the manual is that *WORD-PLOT* provides no way to redefine vertical bar characters used in graphs. This means you can't print graphs using WP-series daisywheels without first laboriously replacing the vertical bar characters.

The documentation is weak, failing to adequately explain when to clear memory or how to relate grid size to the number of lines. Both questions are best determined by trial and error, not by reading the manual.

The tutorials are not really tutorials. The first is just another narrative section that should have been in the manual. The second is a rehash of the command summary.

On the whole, *WORD-PLOT* does what it claims to do reasonably well. However, character-graphics plotting is of such limited usefulness that we are not sure *WORD-PLOT* is worthwhile.

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BRAILLE-EDIT: Word Processing With Apple For The Blind

Raised Dot Computing Inc.
408 S. Baldwin St.
Madison, WI 53703
608/257-9595

Computers: 64K Apple II, II Plus, IIe, IIC; Apple II in emulation mode; Franklin Ace 1000, Franklin Ace 1200; Basis 108; IBM PC with Quadlink board (from Quadram Associates). The program is designed primarily for the Apple II series.

Operating System: Apple DOS 3.3. **Media:** One floppy disk drive (two drives are highly recommended).

Required Peripherals: Video monitor for sighted users; speech synthesizer for blind users — Echo II, made by Street Electronics, highly recommended, but any serial text-to-speech synthesizer may be used (Echo II is not usable with the Apple IIC since it is a plug-in board); printer; Apple Super Serial Card or CCS 7710 Serial Card used with braille embosser or paperless brailleur.

Other Requirements: None.

Optional Items: Two or more floppy disk drives — vendor working on hard disk capability; braille embosser; paperless brailleur.

System used for test: 64K Apple II Plus with Echo II speech synthesizer and two floppy disk drives.

List Price: \$300 (\$275 if check for full payment accompanies order).

Reviewed by Daveed Mandell

BRAILLE-EDIT™ is a word-processing program tailored to the needs of blind and visually impaired people. One can produce correctly formatted documents — from letters to novels — in braille, synthetic speech, large print and regular print. With appropriate devices, one can print, emboss or listen to any material in Apple DOS text files. Raw data can be dumped from other computer systems into the Apple and vice versa.

Blind people can write — correcting freely as they type — listening at will to characters, words, phrases, sentences and paragraphs. There's no need to agonize over the appearance of the work. Embedded formatting commands take care of that. Now the blind can produce clean-looking documents from

start to finish, without assistance.

Several low-cost speech synthesizers are available and all can be used. But the Echo II™ has many appealing features for blind people, such as several punctuation modes, fast speech and screen review.

BRAILLE-EDIT is character-oriented. Each file produced is a long string of characters, which is correctly formatted after data entry by embedding special commands. Large files, called "chapters," can contain more than 30 pages of text. Each page can hold 4,096 characters. Within chapters, pages can be merged, cut and rearranged; chapters can be merged and split. Files can be copied and moved.

The software accommodates several screen displays for sighted people: high-resolution display, normal display, wide display (with 80-column card), large-print display and braille dot pattern display. Braille is a complicated system with nearly 200 abbreviations and contractions. There are many rules and special usages. Its format differs sharply from printed material, yet, for the most part, BRAILLE-EDIT is able to handle print-to-braille and braille-to-print translation quite well. A powerful global replace capability takes care of most formatting problems, so files can be reformatted for various purposes, needs and devices without retying them.

Now anyone can produce tests, memos or newsletters in regular print, and automatically translate them into braille. Simply type on the keyboard and the translator does the rest.

BRAILLE-EDIT also lets people who know braille transform the Apple keyboard into an electronic braille-writer. Instead of using automatic print-to-braille translation, a person who knows braille can produce it directly, using six designated keys for the braille cell and dot combinations. Sighted transcribers can view the braille on the screen and translate it into print for easy and quick proofreading.

Braille printers come in many types. A modified daisywheel printer can produce adequate braille on suitably thick bond paper, or a modified braille-writer costing \$3,000 can act as a printer. There are commercially available high-performance braille embossers at \$15,000 or more. Alternatively, braille can be embossed on cassettes using a \$7,000 paperless brailleur. Each

device requires its own special software driver, and several such drivers are built into BRAILLE-EDIT.

BRAILLE-EDIT is the only software currently on the market that combines braille, speech, large print and regular print. In this way it caters to the needs of blind, partially sighted and fully sighted computer users. Now, thanks to BRAILLE-EDIT, it's possible to run typed or typeset material through an optical scanner and send it to an Apple and braille printer. The same material also can be sent to a high-quality speech synthesizer, such as Digital Equipment Corp.'s DECtalk™. One software package thus provides braille and recorded literature for the blind and print for the sighted.

Documentation consists of two manuals: a software tutorial and a detailed interfacing manual discussing the wide variety of devices associated with BRAILLE-EDIT. These manuals are available in print, paper braille, floppy disk, braille cassette and audio cassette formats. Customers also receive a free year's subscription to a monthly newsletter on computer applications for the blind, new products and updated information on BRAILLE-EDIT, including answers to questions, user hints and more.

BRAILLE-EDIT is by no means your run-of-the-mill word processor. In many ways, it's more sophisticated than most other word processors since it must handle so many formats and devices. On the other hand, manipulating files isn't always as easy as with some other word processors. Moving text within pages, for example, sometimes can be awkward. You must indicate cursor positions of the first and last characters of material to be moved. It would be easier to be able to mark the beginning and end of text blocks. Further, only a character count is given. A word count would be valuable, especially for journalists. The program could also use a spelling checker.

BRAILLE-EDIT is a unique software package worth exploring and purchasing, especially where sighted and visually impaired people work or study together. On the whole, it is a pleasure to use and a credit to its vendor.

Daveed Mandell is a blind free-lance journalist and a reporter for Pacifica Radio in Berkeley, Calif.

Circle 14 on the Reader Service card or GO EBB.

6502 CROSS ASSEMBLER FOR Z80 CP/M

2500 AD Software Inc.
P.O. Box 441410
Aurora, CO 80014
303/752-4382

Computers: Any Z80 based CP/M system.

Operating System: CP/M 2.2.

Media: 8-inch single-sided, single-density floppy disk.

Required Peripherals: At least one disk drive.

Other Requirements: 6502 based "target" computer.

Optional Items: Printer.

System used for test: 55K Z80 CP/M 2.2 S-100 system.

List Price: \$99.95

Reviewed by Don Lloyd

A cross assembler is a program that is written to run on one computer (called the "host") while assembling code for a different computer (called the "target"). A programmer, for instance, could use a Z80/6502™ cross assembler to write an assembly language program for the 6502/6510 based Commodore 64™ while working in the familiar 8080/Z80 based CP/M™ environment. Once the 6502 code has been assembled on the Z80 machine, there remains only to "port" the final program over to the Commodore 64, most likely through an RS-232 cable.

Any assembler, cross or otherwise, takes assembly language as input and produces some form of machine language as output. The designer of the CPU formulates the assembly language to let programmers know how to talk to their device. The first program written for any CPU has to be an assembler so the thing can be programmed in the first place.

Program development time can be significantly reduced by the use of cross assemblers. There is no need to learn a whole new assembly procedure in order to write for a new computer. It may be the case that the target machine is so new that there is no assembler yet available for it, in which case a cross assembler is indispensable.

Naturally, each CPU designer takes a different approach and we wind up with a language problem. To give you a concrete example, both the Z80 and the 6502 have an "A" register. If you

want to load the value of 1 into that register, the proper syntax for the Z80 is "LD A,1" and for the 6502 it is "LDA #1".

Taking this cross assembler principle one step further, 2500 AD software has come up with something that may be a bit controversial. By setting one option, it is possible to write for the 6502 using Z80 syntax. This feature reduces development time even more. If you have been programming in Z80 for a while, you can start writing code for the 6502 in less than a day. On the other hand, by taking advantage of this convenience you simply delay "really" learning the 6502.

There are other advanced features in this package. It has a fully developed "macro" capability, which, put simply, allows you to define your own commands. It will produce relocatable or absolute code. A relocatable program may be run from anywhere in the target machine's memory; an absolute program must be run from a predetermined location. Relocatable programming, though slower and less efficient, is handy when the target machine has not been built yet! Other goodies include extended precision assembly time calculations, versatile symbol handling and many more items too arcane to go into here.

Most assemblers have a companion program called a linker and yet another called a loader. With a linker, you can write a number of short programs as separate files then "link" them together as needed. The loader does the final resolving of everything into pure machine language and saves the results of your labors on disk as a bona fide, workable program. 2500 AD provides two linkers: one has a built-in loader that saves the programmer some time, and the other produces code in an intermediate format that is easier to port over an RS-232 cable.

There is a lot of programming power here for a remarkably inexpensive price. It has one major drawback. As advanced and flexible as this package is, it has proven to be most unhelpful in one way. As you might imagine, it is extremely memory hungry, setting aside portions of RAM for all kinds of tables, intermediate calculations, cross references, macros and the like. It creates a macro table even if you choose not to use the macro capability. Even a very short test program will occupy all of your memory, and this is where the

major flaw occurs. It was written to run on any Z80 CP/M system, yet in its mad grab for memory it doesn't check to see whether it is erasing anything vital to CP/M! In my 55K system, everything ran fine until I asked it to save the program listing on disk instead of sending it to the printer. It promptly opened another buffer right on top of CP/M, and I must say the crash was spectacular.

Fixing a bug like that could be a minor revision or it could be a major undertaking. Either way, I hope they do it soon, because this energetic, ambitious package could be a contender.

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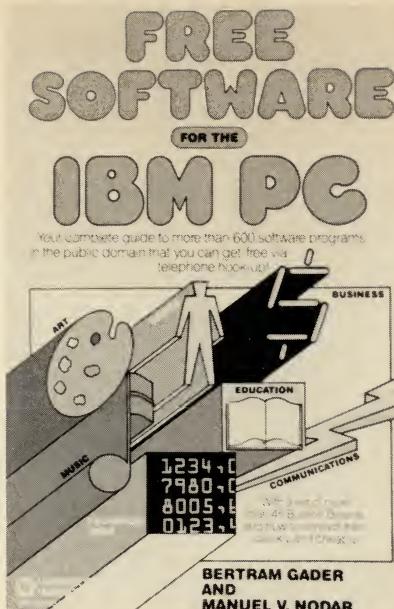
FREE SOFTWARE FOR THE IBM PC

By Bertram Gader and Manuel V. Nodar
 Warner Books, 1984
 466 pages; \$8.95 (softcover)
 Reviewed by William J. Lynott

When it comes to the world's population of software, there are two very different species occupying the planet. There is, of course, the very slick, professional — and expensive — commercial variety with which we are all familiar. And there is the free variety. That's right, free. And some of the latter is surprisingly good.

Free software comes to us courtesy of those hardy and dedicated souls who will slave over a program until it does what they want it to do, and then turn right around and give it away to anyone who is willing to download it from the local electronic bulletin board.

Authors Gader and Nodar have done a yeoman's job of compiling a huge directory of more than 600 programs in the public domain. They have also included an introductory section explaining how free software



finds its way into this world, how electronic bulletin boards work and how you can get in on the action. You will, of course, need a computer, a modem and the necessary communications software compatible with your modem. This book is limited to programs written for the IBM PC and compatibles, but there are free programs available for virtually every popular operating system.

The directory is organized in two sections. The first lists available programs by type: games, art gallery, mu-

1-2-3 GO!

By Julie E. Bingham
 Addison-Wesley, 1984
 271 pages, \$14.95 (softcover)
 Reviewed by William J. Lynott

You can count on it. Almost every software package with the depth of Lotus' 1-2-3 will inspire a raft of publications designed to augment the program's original documentation. Despite the fact that 1-2-3 boasts one of the better software instruction manuals around, it has fostered perhaps the largest family ever of secondary publications. But some of the better ones do serve a legitimate purpose.

Software documentation must not only provide comprehensive instructions for the program's use, it must also be constructed in a fashion that will result in a well-organized, permanent reference manual. Thus, there is little room for creativity or experimentation with style. Also, the original documentation obviously cannot reflect the ingenuity of the thousands of users who put in millions of hours with the program after it reaches the marketplace.

And so, books intended to make it

easier for the user to gain maximum benefit from major programs are born. As these books go, *1-2-3 Go* should serve its purpose reasonably well. Certainly, the author has good credentials; she is employed at one of 1-2-3's beta-test sites.

The opening chapters provide a review of the 1-2-3 command structure that will provide the novice spreadsheet user with a simpler and somewhat more thorough explanation of the basics than is found in the documentation. By following the author's instructions, the reader can try out each of 1-2-3's commands and see its effects on the screen. Still, much of the material in the early chapters is repetitive of the manual.

Building a spreadsheet begins early. Starting with chapter three, the reader is asked to participate directly by following step-by-step procedures, which are laid out in a clean and easy-to-follow manner. This style is consistent throughout the book and so the reader is led logically from the easy to some of the more difficult 1-2-3 applications. From creating and updating a spreadsheet, the author moves into

sic, system utilities, business and education, and communications programs.

The second listing is by area code of the telephone number that must be dialed in order to reach the computer that holds the program you want. This is a handy feature, since downloading a long program at 300 baud over long distance is an activity that can become expensive. And if the program is available through a number that would be a local call for you, you can easily find it in this section.

The variety of programs listed is surprisingly broad with everything from the simplest of games and trivial utilities to elaborate word processing and file management programs. I downloaded a couple of the shorter programs and found them to work just fine.

Of course, as the authors point out, a directory of this sort will begin to go out of date very quickly. Programs are constantly being shuttled around and revised, and the maintenance of most electronic bulletin boards depends on volunteers who sometimes call it quits. Nevertheless, the experimenter who wants to learn about free software will find his nine bucks well spent on this book.

the graphing, database management and limited word processing capabilities of the program.

I found the final chapter, "Automating Your Worksheet," to be the most helpful in the book. It explains 1-2-3's powerful but complex macro capability in a manner that enhances the material in the documentation. The chapter is good, but it should have been much longer. Macros are one of the more difficult but potentially valuable features of 1-2-3 and so deserve maximum attention.

Through all of this, the book's excellent physical layout and colloquial writing style make the learning process smooth and easy. *1-2-3 Go* should not be regarded as an advanced text on the use of Lotus' popular software program; instead, it is a sort of primer on basics that should provide relatively inexperienced users with an additional learning tool.

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SAKATA RGB MONITOR

SAKATA Model SC-200 CRT is an IBM-compatible, color display monitor. This high-resolution SC-200 monitor distinguishes 16 colors.

The SC-200 has the ability to accept RGB video signals. It reproduces text and colors with vivid graphics. The best results can be obtained when the SC-200 is used with IBM or RGB personal computers.

For information, contact SAKATA U.S.A. Corp., 651 Bonnie Lane, Elk Grove Village, IL 60007. 312/593-3211. Circle 17 on the Reader Service card or GO EBB.

INFOPHONE MODEM

Transend Corp. has introduced the InfoPHONE modem that features 300/1200 baud, full duplex, auto-dial, auto-answer, automatic voice/data switching, Hayes-compatible commands, pulse and touch-tone, full call progress monitoring and a volume-controlled speaker.

The InfoPHONE modem is available in either a plug-in card version (model IPI-1200) designed to fit inside the IBM PC or compatibles, or an external stand-alone style (model IPX-1200), designed for any computer using a serial RS-232 interface.

The modem supports the Hayes Smartmodem commands and screen responses, but can also be extended to offer more complete on-screen call progress monitoring. It is packaged with the Transend PC line of communications software, including ComPlete and Pipeline.

The internal modem is available for \$370 and external modem sells for \$445 when purchased with Transend software which starts at \$129.95 retail. For information, contact Transend Corp., 2190 Paragon Dr., San Jose, CA 95131, 408/946-7400.

Circle 18 on the Reader Service card or GO EBB.

GET SMART

Smartcom II just got smarter. The new version 2.0 is an upgrade of the Hayes Microcomputer Products telecommunications software and includes XMODEM protocol, VT52 and VT102/100 terminal emulation and batch commands for automatic data transmission at specified times.

Smartcom II 2.0 protects passwords, tests the modem without going online and lets users switch easily from voice to data transmission during one phone call. Retailing for \$149, the software comes with the log-on procedures necessary to access CompuServe.

The package is designed especially for use with Smartmodems and is available for the IBM PC and PC-XT, TI Professional, Wang PC, HP 150 and the DEC Rainbow 100. For information, contact Hayes Microcomputer Products Inc., 5923 Peachtree Industrial Blvd., Norcross, GA 30092, 404/449-8791.

Circle 19 on the Reader Service card or GO EBB.

MACMODEM

MacModem, the first intelligent 1200 baud modem, cables and communications software package for the Apple Macintosh computer, has been introduced by Microcom Inc.

The direct-connect modem supports auto-dial and auto-answer and is Bell 212A compatible (0 to 300 baud and 1200 baud). Users requiring higher-speed operation may upgrade MacModem to 2400 baud.

MacModem offers both tone and pulse dialing, a speaker to monitor the progress of a call and a complete set of LED status indicators on the front panel.

The MacModem communications software takes full advantage of the Macintosh "point and click" mouse technology, allowing the user to store an almost unlimited number of telephone numbers, communications parameters and log-on sequences. To connect with another computer, the MacModem user simply clicks the mouse on the desired number.

The unit retails for \$699. For information, contact Microcom, 1400A Providence Highway, Norwood, MA 02062, 617/762-9310.

Circle 20 on the Reader Service card or GO EBB.

DIALNET MODEMS

Micom has introduced four new DialNet modems for full-duplex communications over the dial telephone network. Capable of supporting both asynchronous or synchronous devices, the new modems include two dual-speed, auto-answer units, plus another dual-speed modem with directory-driven autodialer.

Model 3012 is compatible with Bell 212A modems at 1200 bps and with Bell 103 modems at up to 300 bps. It is priced at \$495.

Model 3012TA, an answer-only "Triple" modem intended primarily for computer site applications, sells for \$695. It has Bell 212A and Racal Vadic 3400 compatibility at 1200 bps as well as Bell 103 compatibility at speeds of 300 bps.

Model 3012+, which offers directory-driven auto-dialing, features Bell 212A compatibility at 1200 bps and Bell 103 compatibility at 300 bps and less. It is priced at \$595.

Model 3024, at 2400 bps, is a fast full-duplex modem, is compatible with CCITT Recommendation V.22 bis (2400 bps) and Bell 212 (1200 bps) and retails for \$795.

All four modems are offered as desktop units or card modules. For information, contact Micom Systems Inc., 20151 Nordhoff St., Chatsworth, CA 91311, 213/998-8844.

Circle 21 on the Reader Service card or GO EBB.

XTRIEVE DATABASE

SoftCraft Inc. has introduced Xtrieve, a new database management product that provides a fast, easy-to-use method for building database queries.

Developed for the IBM PC, Xtrieve is a data dictionary that provides a virtual table interface to data files, allowing users to quickly retrieve information from the database. It is completely menu driven with all information needed to build the query displayed on the screen.

Retail price is \$195. A local area network version is available for \$395. For information, contact SoftCraft Inc., P.O. Box 9802, No. 590, Austin, TX 78766, 512/346-8380.

Circle 22 on the Reader Service card or GO EBB.



MODEM SLEUTH

Sleuth, a dial-back access authenticator designed to work with the Hayes Smartmodem (300 or 1200 baud), has been introduced by C.H. Systems.

Installed between the computer and smartmodem, Sleuth prevents unauthorized use of data ports by requiring all would-be users to type in an identification number and password. After receiving this information, Sleuth disconnects the dialer and instantly verifies authenticity. Upon validation, it matches the information received to a previously entered phone number and dials back the remote user through the smartmodem, thus establishing normal modem connection.

Sleuth retails for \$465. For information, contact C.H. Systems Inc., 8533 W. Sunset Blvd., Suite 106, Los Angeles, CA 90069, 213/854-3536.

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TOUCHBASE MODEM

The TouchBase modem from TouchBase Design is an internal modem designed for the NEC 8201A and the Epson HX-20 portable lap computers.

The 2-inch-by-2-inch 300-baud modem installs inside the computer and does not interfere with the normal operation of the machine or its ports. A special RS-232 cable interfaces the computer with the telephone line. A loop-through is provided so that the telephone remains connected to the telephone circuit.

The TouchBase modem needs no extra batteries of its own, and while connected it will use about 8 milliamps of current from the computer's batteries or power supply.

Instructions for installation come with the modem, which sells for \$99 assembled. (California residents add 6.5 percent sales tax.)

The TouchBase modem may be ordered directly from TouchBase Design, 1447 S. Crest Dr., Los Angeles, CA 90035, 213/277-1208.

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PORTABLE APRICOT

The Apricot Portable from Applied Computer Techniques is an advanced 8086-based machine that incorporates voice recognition, an infrared keyboard and a mouse/trackerball.

Selling for \$2,695, the computer features a full-size, 25-line by 80-column LCD screen in a compact, 13-pound package. It comes bundled with graphics, executive and system software.

The Apricot Portable has 256K RAM which is expandable to 1 MB and a 720K double-sided 3½-inch disk drive. For information, contact Applied Computer Techniques (ACT) Inc., 3375 Scott Blvd., Suite 336, Santa Clara, CA 95051, 408/727-8090.

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5-MEGABYTE MORROW

Morrow Inc. has introduced the Morrow MD5-E, a complete five-megabyte system with word processing software that retails for \$1,999.

The MD5-E provides 5.4 MB of formatted hard-disk storage using a 5¼-inch Seagate Technology Winchester disk drive and 384K of floppy disk storage on a double-sided, double-density 5¼-inch drive. The system can be expanded easily by adding one hard and one floppy drive.

NewWord word processing software and Correct-It spelling checker come bundled. This high capacity system, which is ideal for writers, holds more than 2,800 pages of text or more than 70,000 mailing-list entries.

Also included with the system are the CP/M Plus operating system, a detachable keyboard and a full-size user-programmable terminal displaying 80 characters by 24 lines.

For information, contact Morrow Inc., 600 McCormick St., San Leandro, CA 94577, 415/430-1970.

Circle 26 on the Reader Service card or GO EBB.

HAYES MODEM FOR APPLE IIC

Hayes Microcomputer Products has begun shipping a telecommunications package for the Apple IIC that includes a Smartmodem 300, Smartcom I communications software plus cables for connecting the modem to the computer and a phone jack.

The package was announced last April, but Hayes held off shipping when it learned that serial ports on the original version of the Apple IIC operate 3 percent slower than specified. This significantly exceeds the operating range set forth in the Electronic Industries Association standard RS-404. As a result, 300 baud modems connected to these ports also operate slower and the probability that transmission errors will occur is increased.

Apple is modifying the design of its portable computer beginning with those machines built after December. The company is also providing a means for fixing the problem on the original version of the computer.

For information on the Apple IIC telecommunications package, contact Hayes Microcomputer Products Inc., 5923 Peachtree Industrial Blvd., Norcross, GA 30092, 404/449-8791.

Circle 27 on the Reader Service card or GO EBB.

CHIPMUNK DRIVE

The Chipmunk from Holmes Engineering is a 3½-inch portable, battery-operated disk drive for the TRS-80 Model 100 and other lap-sized portable computers.

Priced at \$499, the tiny Chipmunk gives fast access to more than 360K of user information. It draws its power from rechargeable internal NiCad batteries or an AC adapter.

Chipmunk's operating system is CDOS, which includes a BASIC interpreter and a variety of utilities. It resides in a ROM chip and requires less than 1K of the computer's memory to operate.

For information, contact Holmes Engineering, 5175 Greenpine Dr., Salt Lake City, UT 84123, 801/261-5652.

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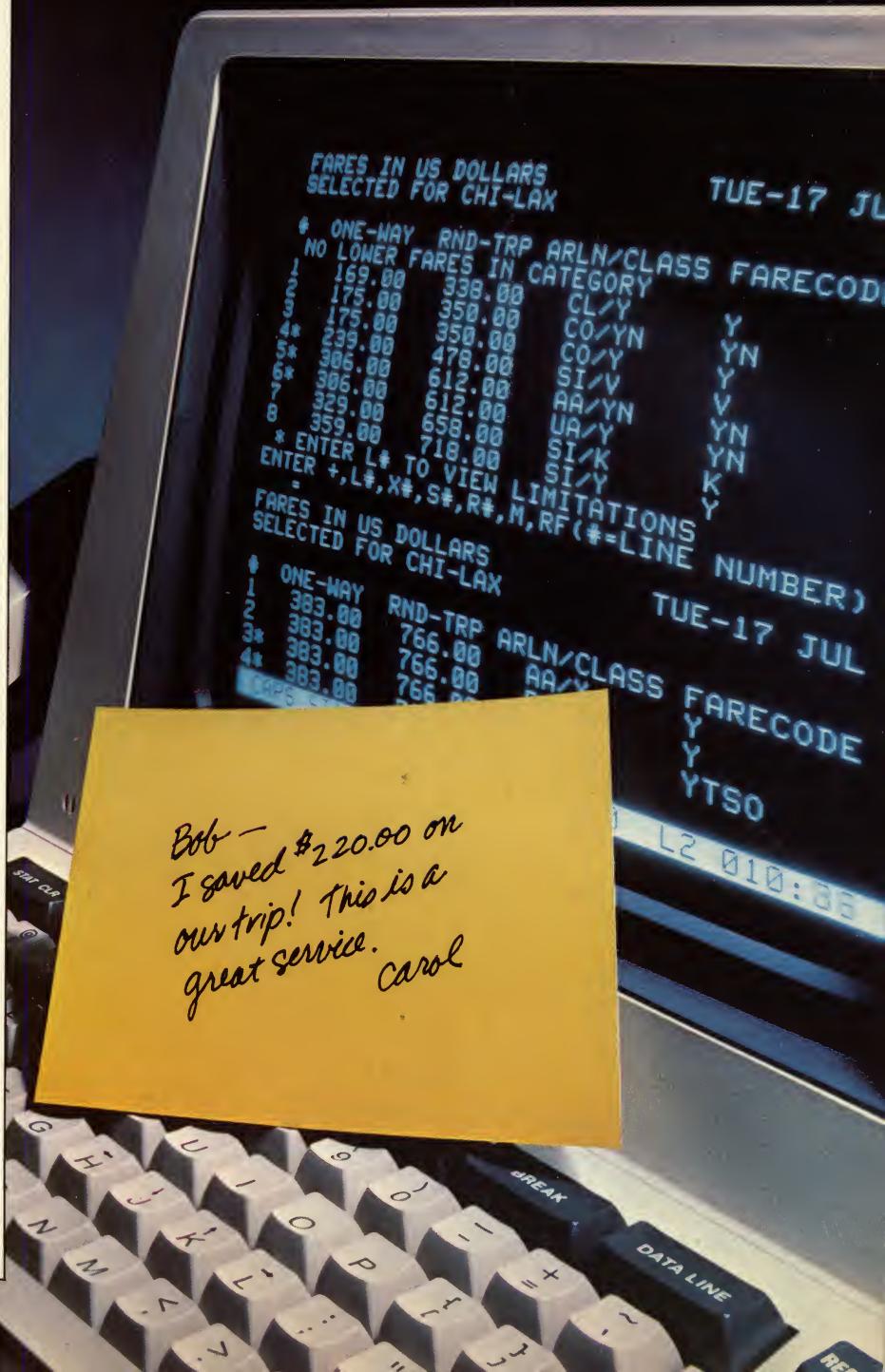
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